SCOTT

TO: HOLDERS OF ELECTRO-PNEUMATIC FLOW CONTROL UNIT (800802 & 800803)

OVERHAUL MANUAL

REVISION NO. 3 DATED MAY 31, 1984

HIGHLIGHTS

Pages which have been revised are outlined below with the highlights of the revision. Please delete the affected pages and enter Revision No. 3 dated May 31/84 to the Record of Revision Sheet. In addition to the changes noted below, material has been relocated throughout the manual.

Chapter/Section and Page No.	Description	Effectivity
35-21-53 Title Page and All Pages	Revised Scott name & masthead logo; added 800802-05	All Models
35-21-53 Record of Revisions Effective Pages	Revised to reflect current revision	All Models
35-21-53 Page 501	Illustrated Parts List Added	All Models
35-21-53 Page 502	Close was open; open was close; Assembly was paragraph 6	All Models
35-21-53 Page 515 and 517	Revised procedure to incorporate -04 units; revised altitude for -01 and -03 units	800802-01,-02, and-04 800803-01,-02, and-04
35-21-53 Page 701	Close was open; open was close; HEREIN WAS PARAGRAPH 8	All Models
35-21-53 Page 706 and 707	Revised wording to cover all units	All Models
35-21-53 Page 801, 802 and 803	Revised wording to cover all units and simplify; revised paragraph references	All Models
35-21-53 Page 1001	Deleted reference to A-T-O in note	All Models

HIGHLILGHTS (CONT'D)

Chapter/Section and Page No.	Description	Effectivity
35-21-53 Pages 1, 3, 101, 104, 504, 506, 515, 517, 521, 705, 706, 707, 708, 709, 1101, 1105, 1107, 1108, 1109 and 1110	Revised data to incorporate 800802-05 model	800802-05

MANUAL

OVERHAUL

ELECTRO-PNEUMATIC FLOW CONTROL UNITS

PART NO.	PART NO.
800802-01	800803-01
800802-02	800803-02
800802-03	800803-04
800802-04	
800802-05	

35-21-53

May 31/84

SCOTT®

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RECORD OF REVISIONS

REV NO.	ISSUE DATE	DATE INSERTED	BY	REV NO.	ISSUE DATE	DATE INSERTED	BY
1	Aug 15/73						
2	Nov 1/80						
3	May 31/84						

TEMPORARY REVISION 35-16

To Holders of:

800802 and 800803 Series Electro-Pneumatic Flow Control Unit
Overhaul Manual 35-21-53, Revision 3
Dated May 31/84.

SUBJECT:

Inclusion of text for "Equivalent substitutes may be used for listed items."

REASON FOR ISSUANCE:

Customer request for inclusion of text.

EFFECTIVITY:

All 800802 and 800803 Series Electro-Pneumatic Flow Control Units.

INSTRUCTIONS:

1. Insert each of the following pages adjacent to the page that is revised, as indicated on each subsequent page of this Temporary Revision.
2. After the pages of this Temporary Revision are inserted into the appropriate place in the above referenced Overhaul Manual, record the Temporary Revision Number, Page Number, Issuance Date and your initials into the appropriate columns on the RECORD OF TEMPORARY REVISIONS page in the front of the Overhaul Manual.
3. Place this page (1 of 6) in the above referenced Overhaul Manual, opposite page 1/2 of RECORD OF TEMPORARY REVISIONS.

ADDITIONAL INFORMATION:

For additional information contact:

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RECORD OF TEMPORARY REVISIONS

TEMPORARY REV. NO.	PAGE NUMBER	ISSUE DATE	BY	DATE REMOVED	BY

SERVICE BULLETIN LIST

NUMBER	REV	DATE INCORP	BY	NUMBER	REV	DATE INCORP	BY

800802 and 800803
OVERHAUL MANUAL

LIST OF EFFECTIVE PAGES

Insert latest revised pages, destroy superseded pages.

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*512	May 31/84		

*The asterisk indicates pages revised or added by the current revision.

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800802 and 800803
OVERHAUL MANUAL

TABLE OF CONTENTS

IMPORTANT WARNINGS

WARNING: ANY SERVICE OR OVERHAUL PERFORMED ON THIS APPARATUS SHALL BE DONE ONLY BY THOSE FACILITIES EXPERIENCED IN, OR BY PERSONNEL KNOWLEDGEABLE IN HIGH PRESSURE AVIATION OXYGEN EQUIPMENT. IF NONE ARE KNOWN, CONTACT SCOTT AVIATION OR ITS DISTRIBUTORS FOR NAMES OF AUTHORIZED SERVICE CENTERS.

WARNING: ALL PROCEDURES DESCRIBED IN THIS MANUAL SHALL BE PERFORMED IN AN AREA FREE OF OIL, GREASE, FLAMMABLE SOLVENTS OR OTHER COMBUSTIBLE MATERIALS. SUCH MATERIALS, AS WELL AS DUST, LINT, AND FINE METAL FILINGS ARE ALL POTENTIAL COMBUSTIBLES WHICH MIGHT, WHEN EXPOSED TO OXYGEN UNDER PRESSURE IGNITE AND RESULT IN AN EXPLOSION AND/OR FIRE.

WARNING: DO NOT ALLOW OIL, GREASE, FLAMMABLE SOLVENTS, OR OTHER COMBUSTIBLE MATERIALS TO COME IN CONTACT WITH PARTS THAT WILL BE EXPOSED TO PRESSURIZED OXYGEN. SUCH MATERIALS, AS WELL AS DUST, LINT, AND FINE METAL FILINGS ARE ALL POTENTIAL COMBUSTIBLES WHICH MIGHT, WHEN EXPOSED TO OXYGEN UNDER PRESSURE, IGNITE AND RESULT IN AN EXPLOSION.

1. Description and Operation

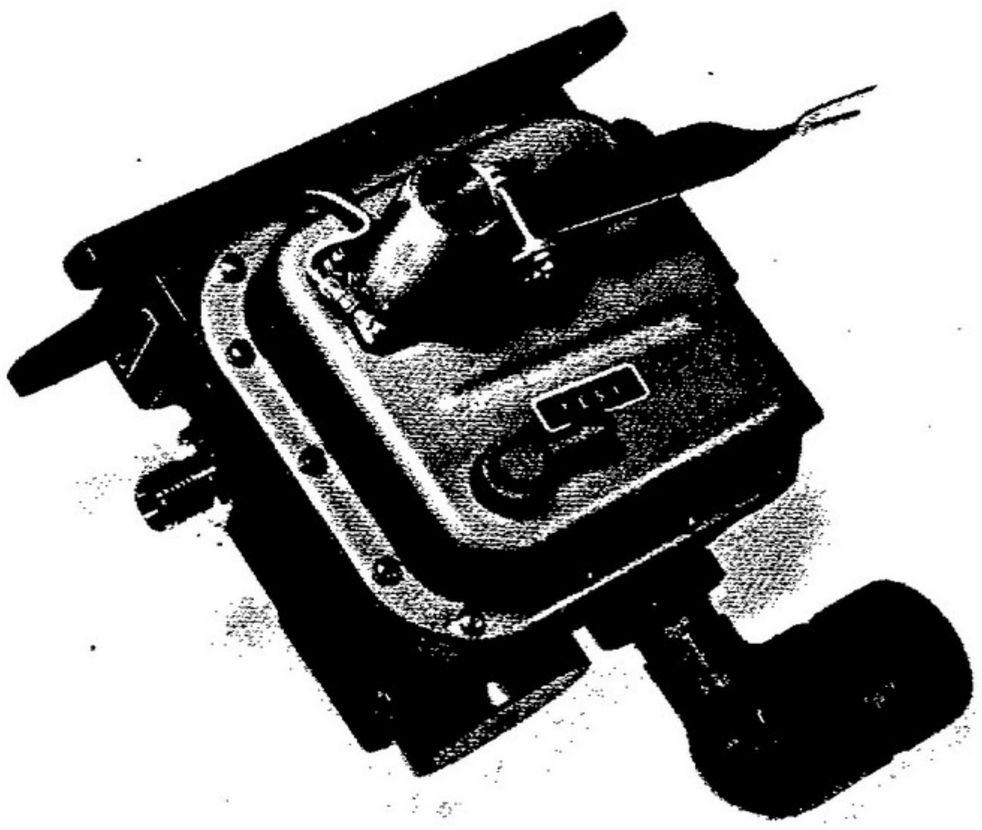
A. General

(1) This manual provides overhaul instructions with illustrated parts list for Electro-Pneumatic Flow Control Units, part numbers 800802-01, -02, -03, -04 and -05 and 800803-01, -02 and -04 (see figure 1).

NOTE: Electro-Pneumatic Flow Control Unit, part number 800802-03 and -05 differ slightly from that shown in figure 1. The lever shown in the upper right corner is not present and the elbow (bottom center) is replaced by a reducer. Functionally the 800802 configurations are identical.

B. Purpose of Equipment

(1) The Pneumatic and Electro-Pneumatic Flow Control Units form part of the aircraft passenger emergency oxygen system when installed in a pressurized cabin. When the cabin pressure drops below a pressure equivalent to the pressures listed in Table I, the control unit(s) automatically initiates and controls the flow of oxygen from a high pressure gaseous oxygen source to the passenger mask compartments. The system may also be activated at any altitude manually at the Pneumatic Flow Control Unit, or electrically through the Electro-Pneumatic Flow Control Units.

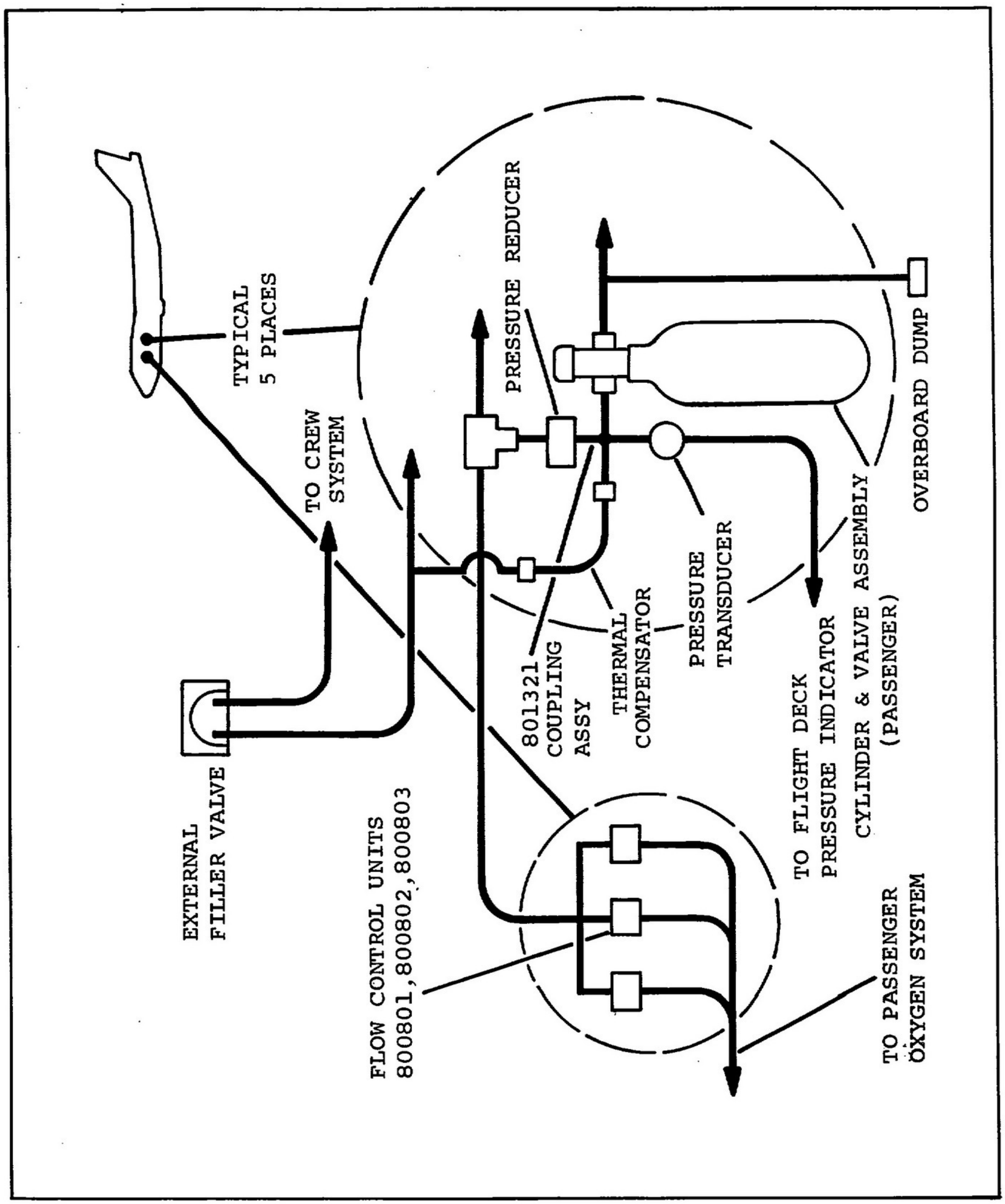


Electro-Pneumatic
Flow Control Unit
Figure 1

C. Typical Installation

(1) A typical pressurized cabin installation is shown in figure 2. An oxygen source consisting of a series of high pressure oxygen storage cylinders is connected through pressure reducers to the inlets of flow control units.

(2) The control units are normally closed(OFF). In the event of cabin decompression (cabin pressure drops below pressure listed on Table I), the aneroids


TYPICAL
5 PLACES
TO CREW
SYSTEM
PRESSURE REDUCER
OVERBOARD DUMP
EXTERNAL
FILLER VALVE
FLOW CONTROL UNITS
800801,800802,800803
801321
COUPLING
ASSY
THERMAL
COMPENSATOR
PRESSURE
TRANSDUCER
TO FLIGHT DECK
PRESSURE INDICATOR
CYLINDER & VALVE ASSEMBLY
(PASSENGER)
TO PASSENGER
OXYGEN SYSTEM

Configuration All Series	Actuation Altitude	
	Feet	Meters
-01, -03	13,250-14,400	4038.6-4389.1
-02	12,250-13,500	3733.8-4114.8
-04, -05	14,000-15,000	4267.2-4572.0

Automatic Actuation Pressure Values
Table I

within control units are preset to automatically actuate and control the flow of oxygen to the passenger emergency oxygen system. If required, the system may be actuated electrically by a crew member from the cockpit of the aircraft through control units 800802 and/or 800803, to supply oxygen to passenger oxygen system. Switches control electrical actuation of control units 800802 and 800803.

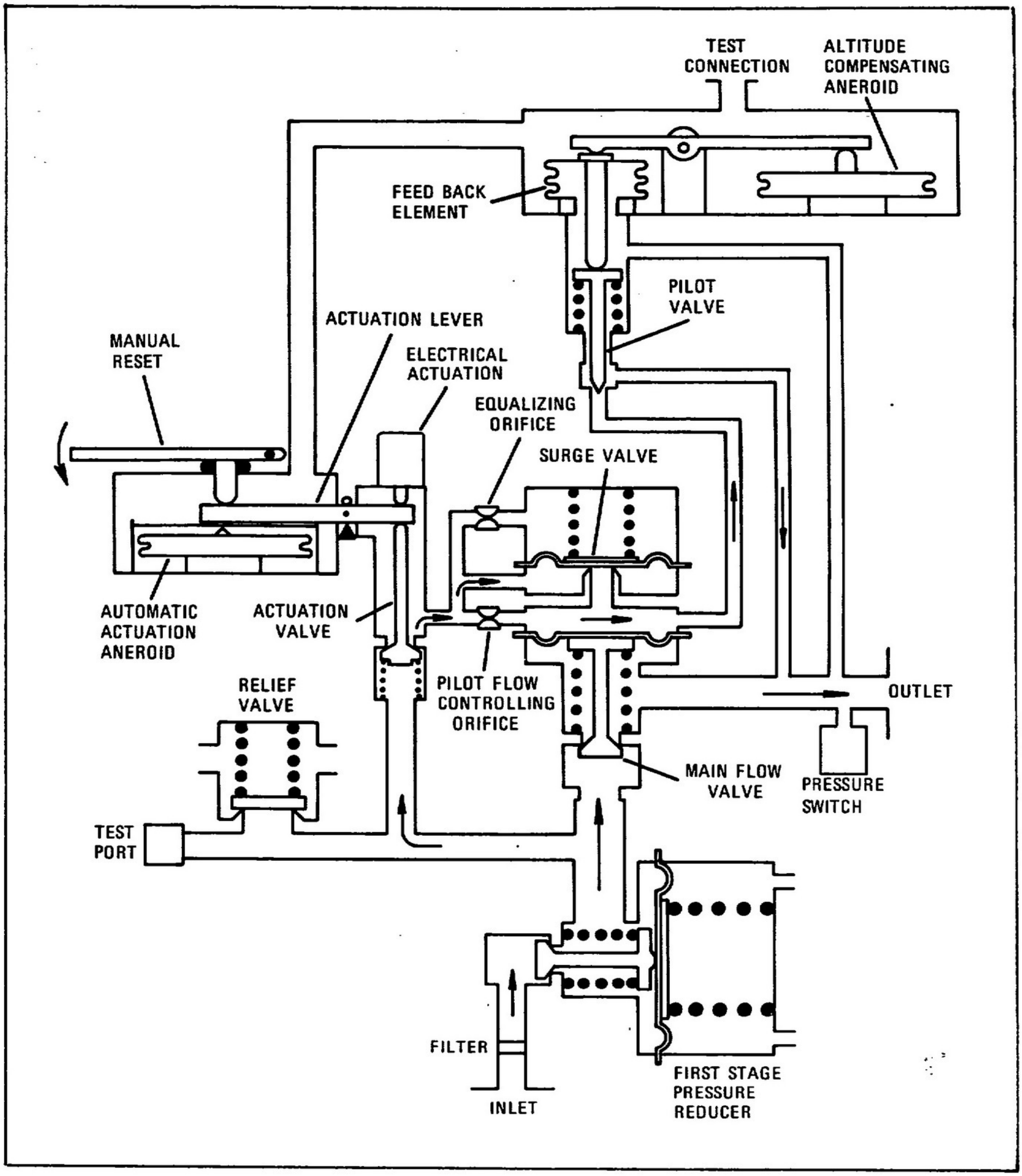
(3) When control units 800801 and/or 800802 are activated, lights in the cockpit of the aircraft and in the passenger compartment are illuminated indicating presence of outlet pressure and subsequent flow. This outlet pressure indication is possible through a pressure switch in control unit 800802.

(4) When oxygen is required for therapeutic reasons, closing of a switch activates control unit 800803, only, which controls oxygen flow to a therapeutic outlet located at each of the passenger mask compartments.

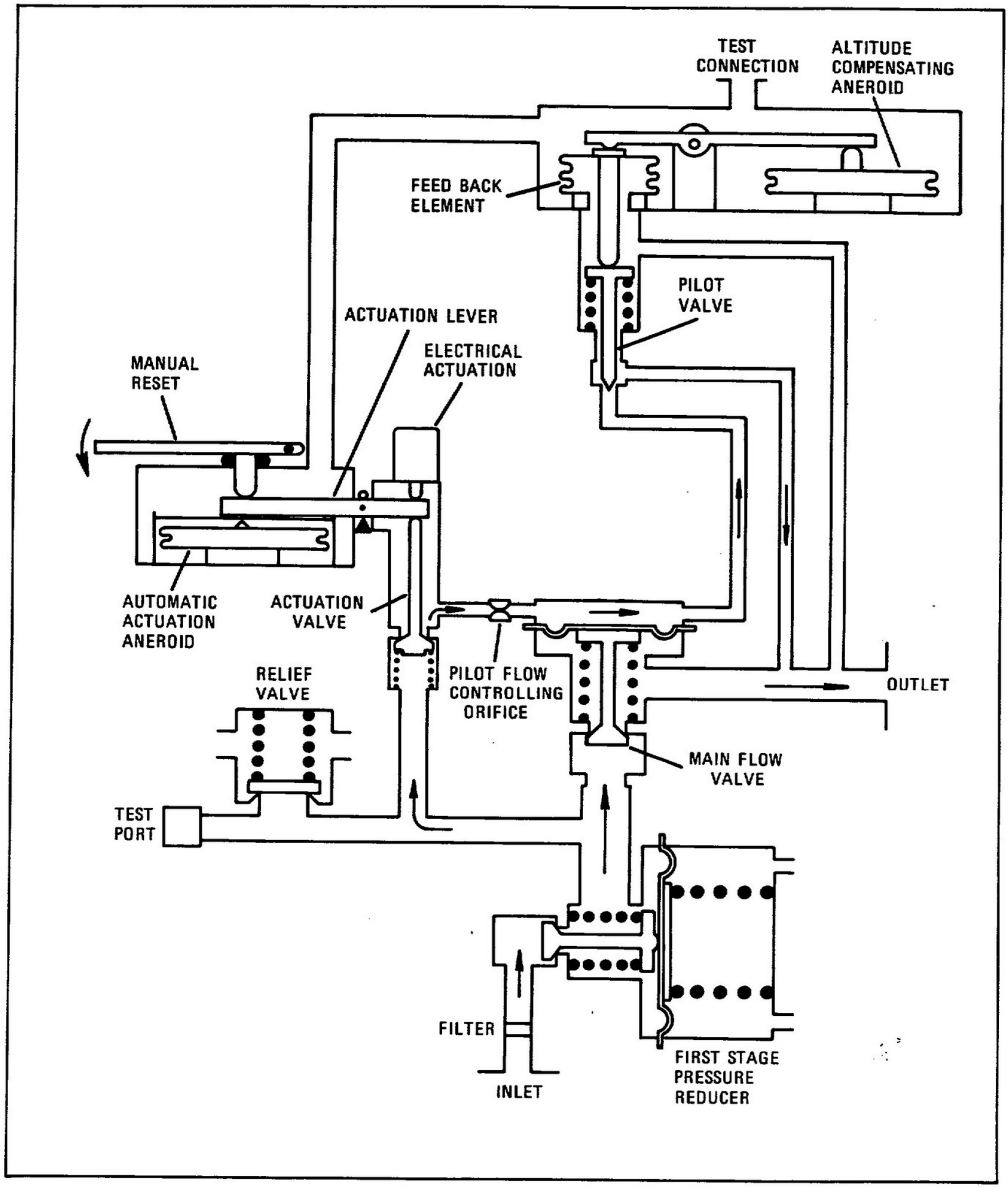
C. Operation (See figure 3)

(1) Pressure Reducer. When oxygen, at a pressure of 500 psi, is introduced at the inlet of the control unit, the first stage pressure reducer reduces the pressure to a value of approximately 120 psig. This controlled first stage pressure is routed to the pilot-operated main flow control valve and to the actuation valve.

(2) Automatic Actuation. At an altitude as listed in Table I, the aneroid in the automatic actuation mechanism develops sufficient force to overcome the tension of the leaf spring. The increased tension trips the leaf spring past center and moves the lever against the actuation valve, which then opens and allows the first stage pressure to be applied to the pilot flow controlling orifice and to the surge valve.



Schematic of 800802 Flow Control Unit
Figure 3 (Sheet 1 of 2)



Schematic of 800803 Flow Control Unit
Figure 3 (Sheet 2 of 2)

(3) Electrical Actuation (800802 and 800803 only). The system may be actuated electrically at any altitude by energizing a switch in the cockpit of the aircraft. Actuation of the solenoid within the electro-pneumatic control unit overrides a detent causing positive opening and holding of the actuation valve, overriding the automatic mechanism.

(4) Manual Reset. (Cabin pressure below 12,000 feet altitude for all except the -02 units and 11,000 feet for the -02 units). After actuation, the control unit may be reset by depressing the reset mechanism. A spring loaded detent holds the units in the "ON" mode until manually reset. The actuation capability is retained after resetting.

(5) Pressure Surge (800801 and 800802 units only). When the actuation valve opens, first stage pressure is admitted underneath the surge valve diaphragm. The pressure in the closed volume above the surge valve diaphragm is initially at ambient. At actuation, the sudden large pressure differential opens the surge valve and admits oxygen pressure into the pilot volume above the main flow valve diaphragm. With the surge valve open, the pressure in the pilot volume is then nearly equal to the first stage pressure. This occurs because the restriction to flow between the pressure reducer to the pilot volume is small compared to the restriction from the pilot volume to the unit outlet via the pilot valve.

This pilot surge pressure acting on the main flow control valve diaphragm opens the main valve fully and allows oxygen to flow into the outlet. This flow is sufficiently large to pressurize the aircraft system (approximately 3200 cu. in.) to a pressure of 50 psig in not more than 7 seconds. The outlet pressure can build up to a value slightly less than the first stage pressure by the amount of the bias spring force tending to close the main flow valve.

The pressure in the closed volume above the surge valve diaphragm gradually rises as oxygen flows through the equalizing orifice. After a period of 8 to 20 seconds, when the pressure differential across the surge valve diaphragm is reduced to approximately 10 to 15 psi, a spring closes the surge valve resulting in a definite restriction to flow from the pressure reducer to the pilot volume. The pilot pressure becomes equal to the outlet pressure and the bias spring closes the main flow control valve.

(6) Pilot Flow. During normal operation, the pilot oxygen, (approximately 2.5 LPM) flows from the first stage through the actuation valve, through the pilot flow controlling orifice, through the pilot volume, through the pilot valve and into the outlet. The magnitude of the pilot pressure depends on the relative restriction upstream and downstream of the pilot volume. The upstream restriction consists of the pilot flow controlling orifice and is fixed. The downstream restriction consists of the pilot valve, the opening of which is controlled by the feedback element in response to the difference between the input aneroid force and the counteracting force of the outlet pressure acting on the feedback element.

(7) Pilot Operation. The altitude-compensating aneroid exerts a force, tending to close the pilot valve, which is counteracted by the force of the outlet pressure acting on the feeback capsular element, tending to open the pilot valve. The pilot valve moves in the direction of the unbalanced force. If the unit outlet pressure is higher than is demanded by the feedback element, the pilot valve opening increases, the pilot pressure decreases which in turn decreases the opening of the main flow control valve and reduces the output flow. If the feedback element demands a higher outlet pressure than is present in the outlet, the pilot valve opening decreases, increasing the restriction to flow, which raises the pilot pressure and increases the output flow.

(8) Altitude Compensation. From ground level to approximately 15,000 feet, the altitude compensating aneroid does not contact the force transmitting lever arm and has no effect on the unit performance.

The feedback capsular element is pre-loaded so that a constant outlet pressure of approximately 2 psig is required to keep the pilot valve open.

At approximately 17,000 feet, the aneroid contacts the lever arm and develops a force, increasing linearly with decreasing ambient pressure, which adds to the pre-load force of the feedback element, and demands a corresponding increase in the outlet pressure.

(9) Relief Valve. A high flow capacity pressure relief valve is incorporated to ensure that outlet pressure can never exceed 170 psi.

2. Disassembly (See IPL figure 1)

NOTE: Disassembly procedures pertain to all configurations of 800802 and 800803 control units unless otherwise noted.

A. Remove screws (6) and washers (7), disconnect lug (88) and remove solenoid (5) from cover subassembly (24).

B. Remove cover subassembly (24) and gasket (27) from body assembly (161) by removing screws (25) and washers (26); then remove gasket (9).

C. Remove identification plate (3) from body assembly (161) only if replacement is required.

D. For all except 800802-03 and -05, straighten and remove pin (11) to remove pin (10); then remove washer (12) and lever assembly (13).

E. Unthread and remove button (14); then remove washer (15), spring (16) and plunger (18). Remove packing (17) from plunger (18).

F. Remove lens (19) by removing screws (20) and nuts (21); then remove plate (22) and gasket (23).

G. Remove mounting plate (28) by removing screws (29).

H. Remove terminal nuts, washers (93) and disc(s) (94) to disconnect leads from pressure switch (92) (800802 only) (see figure 201).

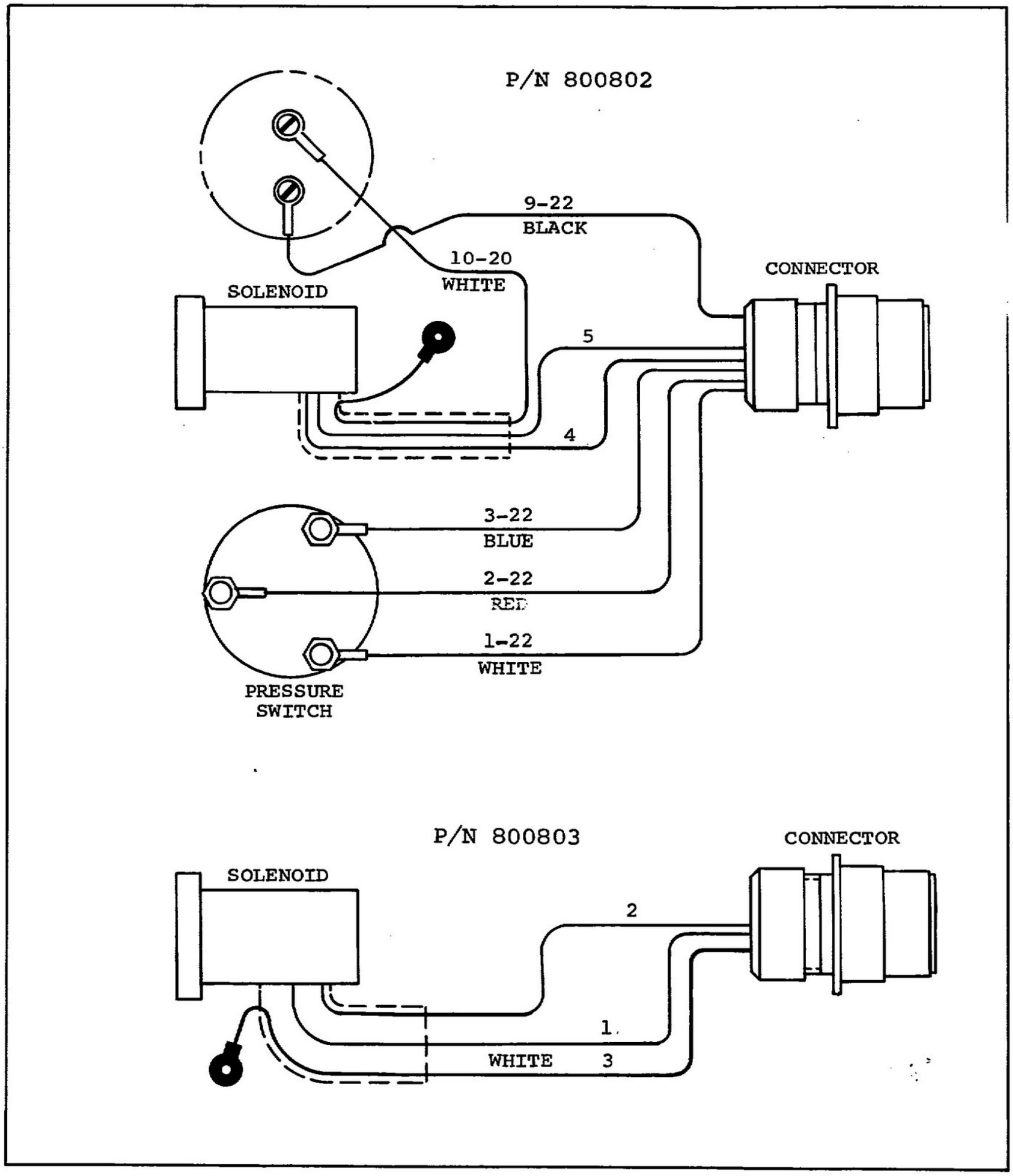
I. Remove screw (96, IPL figure 1) and washer (97) and disconnect lug (89) attaching white lead to body assembly (161) (800802 only). Remove screw (96) and washer (97) and disconnect lug attached to black lead of cable assembly (84) from body assembly (161) (800802 only).

J. Remove screws (86) and washers (87) to release cable assembly (84) (800802 only) (or connector (85) 800803 only).

K. Use appropriate tool and remove pins 4 and 5 from cable assembly (84) (800802 only) to disconnect solenoid leads and remove solenoid (5) from body assembly (161). Remove tubing (8) from leads of solenoid (5) and wire (90 or 91). (Remove pins 1 and 2 from connector (85) on 800803 only.)

L. Remove cable assembly (84) or connector (85) from body assembly (161).

M. Remove pressure switch (92) from body assembly (161) and remove packing (95) (800802 only).



Cabling Diagram
Figure 201

N. Remove valve assembly (98) from body assembly (161); then remove packing (99) from the valve assembly.

O. Remove setscrew (31).

P. Remove lever (32) from support (39) by removing setscrews (37), nuts (34 and 36) and washers (35) from pin (33). Remove setscrew (30) and spring (38).

Q. Remove support (39) from body assembly (161) by removing screws (40) and washers (41 and 42).

R. Unthread and remove aneroid assembly (43) using wrench (7, figure 1101).

S. Loosen nut (45, IPL figure 1), unthread and remove bellows assembly (44), remove packing (46) and nut (45) from bellows assembly.

T. Remove pin (47), stem (48), spring (49), seat assembly (50) and gasket (51) from body assembly (161).

U. Remove indicator (53) from lever assembly (61) by removing screw (54) and washer (55).

V. Remove plate (56) from block (70) by removing screws (57) and washers (58).

W. Remove washers (59 and 60) from lever assembly (61). Remove detent assembly (52) from block (70).

X. Remove bolt (62) from frame (68) by removing nuts (63). Remove spring (64) from frame (68).

Y. Remove setscrew (66) and insert (67) from body assembly (161). Then unthread aneroid assembly (65) from body assembly (161).

Z. Remove frame (68) from body assembly (161) by removing screws (69).

AA. Remove block (70) from body assembly (161) by removing screws (71) and washers (72). Remove packing (73).

AB. Unthread and remove housing (74); then disassemble valve assembly (76 through 80) as follows:

(1) Remove nuts (76 and 77) from stem (80).

(2) Spring (78) and seat (79) are free to be removed from stem (80).

AC. Remove packing (81) from body assembly (161).

AD. Remove screw (82) from body assembly; then remove packing (83) from groove of screw (82).

AE. Unthread and remove plug (100); then remove packing (101) from end of plug (100). Remove union (102), seal (103) and filters (104 and 154) from body assembly (161).

AF. For all except 800802-03 and -05, loosen nut (106), unthread and remove elbow (105), packing (107), and remove nut (106) from elbow (105). For 800802-03 and -05, unthread and remove reducer (-105A) and remove packing (107).

AG. Remove setscrew (109), insert (110) and cap assembly (108).

CAUTION: DEPRESS CAP (108) WITH WRENCH (6, FIGURE 1101) AGAINST LOAD OF SPRING (111, IPL FIGURE 1) TO PREVENT THREAD GALLING, WHEN REMOVING CAP (108).

AH. Remove spring (111), washers (112 and 113) and remove retainer (115) with wrench (6, figure 1101). Remove sleeve (114, IPL figure 1).

AI. With a rocking motion, remove diaphragm assembly (118 through 121) from body assembly (161). Remove packing (116).

AJ. Remove dampener (118) by removing screw (119) from piston (121). Remove bellofram (120).

AK. Unthread and remove valve assembly (123 through 127) from the body assembly. Remove packing (128) from body assembly (161). Disassemble the valve assembly as follows:

(1) Unthread head (123) from stem (127).

(2) Remove spring (124), guide assembly (125), and seat (126) from stem (127).

NOTE: Use wrench (5, figure 1101) to remove cap (129, IPL figure 1).

AL. Unthread and remove cap (129). Remove packing (130) from cap.

AL_1. Remove disc (131) and spring (132) (800802 only).

AM. Remove orifice and diaphragm assembly (134 through 141) (800802 only) and disassemble as follows:

(1) Loosen nut (150) then unthread piston (149) from stem (153). Remove guide and seat assembly (152) and spring (151) from end of stem (153).

(2) Unthread nut (150) and remove stem (153) from guide and seat assembly (152).

AN. Remove seat (142) (800802 only) or plug (143) (800803 only) and bellofram (145) from body assembly (161); then remove packing (144) from seat (142) or plug (143).

NOTE: Use a twist and pull action to remove seat (142) from body assembly (161).

AO. Remove plate (146).

AP. Remove valve assembly (149 through 153) from body assembly (161).

NOTE: Use wrench (4, figure 1101) to remove the valve assembly from the housing assembly.

AQ. Remove packing (147, IPL figure 1) from the valve assembly; then disassemble the valve assembly as follows:

(1) Loosen nut (150) then unthread piston (149) from stem (153). Remove guide and seat assembly (152) and spring (151) from end of stem (153).

(2) Unthread nut (150) and remove stem (153) from guide and seat assembly (152).

AR. Remove screen (155) from body assembly (161).

AS. Remove plates (156 and 158) by removing screws (157 and 159) only if the plates are to be replaced.

TEMPORARY REVISION 35-16

INSTRUCTIONS:

Insert this page facing page # 201/202.

REVISIONS:

The revisions on this page are the following:

1. Original Text:

   B.(1). Use a vapor degreasing method ... oil-free air or nitrogen.

2. Revised Text:

   B.(1). Use a vapor degreasing method with stabilized 1,1,1 Trichlorethane conforming to Specification MIL-T-81533 (manufactured by V91784). An equivalent material may be substituted for 1,1,1 Trichlorethane. Blow clean and dry with a stream of clean, dry, oil-free air or nitrogen.

3. Cleaning

WARNING: DO NOT ALLOW OIL, GREASE, FLAMMABLE SOLVENTS, OR OTHER COMBUSTIBLE MATERIALS TO COME IN CONTACT WITH PARTS THAT WILL BE EXPOSED TO PRESSURIZED OXYGEN. SUCH MATERIALS, AS WELL AS DUST, LINT, AND FINE METAL FILINGS ARE ALL POTENTIAL COMBUSTIBLES WHICH MIGHT, WHEN EXPOSED TO OXYGEN UNDER PRESSURE, IGNITE AND RESULT IN AN EXPLOSION.

A. Remove dirt and foreign particles from equipment by wiping with a clean, lint-free cloth, or by blowing with clean, oil-free air or nitrogen.

B. Metal parts which come in contact with oxygen and have become contaminated can be cleaned as follows:

(1) Use a vapor degreasing method with stabilized 1,1,1 trichloroethane conforming to Specification MIL-T-81533 (manufactured by V91748). Blow clean and dry with a stream of clean, dry, oil-free air or nitrogen.

WARNING: USE 1,1,1 TRICHLOROETHANE IN A WELL-VENTILATED AREA ONLY. AVOID PROLONGED OR REPEATED CONTACT WITH SKIN AND INHALATION OF TOXIC VAPORS.

4. Inspection/Check

A. Carefully inspect all metal parts for cracks, nicks, dents, burrs or tool marks which might cause malfunction of the control unit.

B. Inspect aneroids (43 and 65, IPL figure 1) and bellows assembly (44) for dents and cracks and any other signs of damage.

C. Inspect all filters and screens for contamination, corrosion, or damage.

D. Inspect all threads for burrs and signs of damage.

E. Inspect all valve seats for scoring, scratches, contaminants, and other damage.

F. Inspect all parts for obvious damage.

5. Repair (See IPL figure 1)

A. Repair of parts, other than removing burrs and chasing threads, is not recommended.

B. Replace gaskets (9, 27, and 51), washers (59) and packings (17, 46, 73, 81, 83, 99, 101, 107, 116, 128, 130, 144, and 147).

C. Replace packing (136).

D. Replace diaphragm (140).

E. Replace belloframs (120 and 145).

F. Replace all non-metallic parts except guide assembly (125) and cap assembly (108).

G. Replace screens (135 and 137) and filter (154).

H. Replace all obviously defective or damaged parts.

6. Assembly (See IPL figure 1)

NOTE: Table II lists the consumable materials necessary for assembly and testing.

MATERIAL	DESCRIPTION	MANUFACTURER*	REFER TO PARA
Glyptal	#1201 (Red)	V08800	6. A.(3) 6. G. (2) 6. AN. (4) 6. AN. (5) 6. AS. 6. AV. (25) 6. AV.
Oxygen Lubricant	Krytox 240AC	V18873	6. B. (2) 6. AK_1.
Leak Test Solution	Leak Tek Formula 16-OX (MIL-L-25567)	V03530	6. C. (3) 6. Q. (2)
Loctite	Grade B	V05972	6. AI. (1)
Loctite	Grade C	V05972	8. B. (3) 6. E. (2) 6. I. (3) 6. T. 6. W. 6. Y. 6. AV.
Lubricating Powder	Fluoroglide 200 Dry Lubricant	V18632	6. T. 6. AH.
Oxygen	MIL-O-27210, Type I	V07098	6. B. (3) 6. AU. (2) 8. 8. B. 8. B. (1) 8. D. (5) d

*Refer to Illustrated Parts List, paragraph 12. B. (3) for Vendor's Codes.

NOTE: Equivalent materials may be used except for oxygen lubricant.

List of Consumable Materials for Assembly and Testing
TABLE II

NOTE: Assembly procedures pertain to all configurations of 800802 and 800803 control units unless otherwise noted.

NOTE: When performing tests required during assembly procedures close valve (SS), open valve (RR), and place selector valve (PP) in 800801 (up) position unless otherwise noted.

A. Assemble items 30 through 37 to item 39 as follows:

(1) Thread setscrew (30) into lever (32) until the screw is flush with the top of the lever.

(2) Thread setscrews (31) into lever (32) until the setscrews are flush with the top of the lever.

(3) Assemble lever (32) to support (39) with pin (33), and secure with nuts (34) and washers (35). Apply Glyptal to nuts (34) and washers (35).

NOTE: To restrict pin (33) from rotating when assembled to support (39), prick punch side of pin (33) to create an interference fit between pin (33) and support (39).

(4) Assemble setscrews (37) and nut (36) to support (39).

B. Set the items assembled in step A aside, and assemble items 14 through 23 to cover subassembly (24) as follows:

(1) Assemble gasket (23), plate (22) and lens (19) to cover subassembly (24) with screws (20) and nuts (21).

(2) Lubricate packing (17) sparingly with Krytox and assemble on plunger (18) using stylus (9, figure 1101).

CAUTION: AVOID APPLICATION OF KRYTOX 240 AC TO THREADED AREAS.

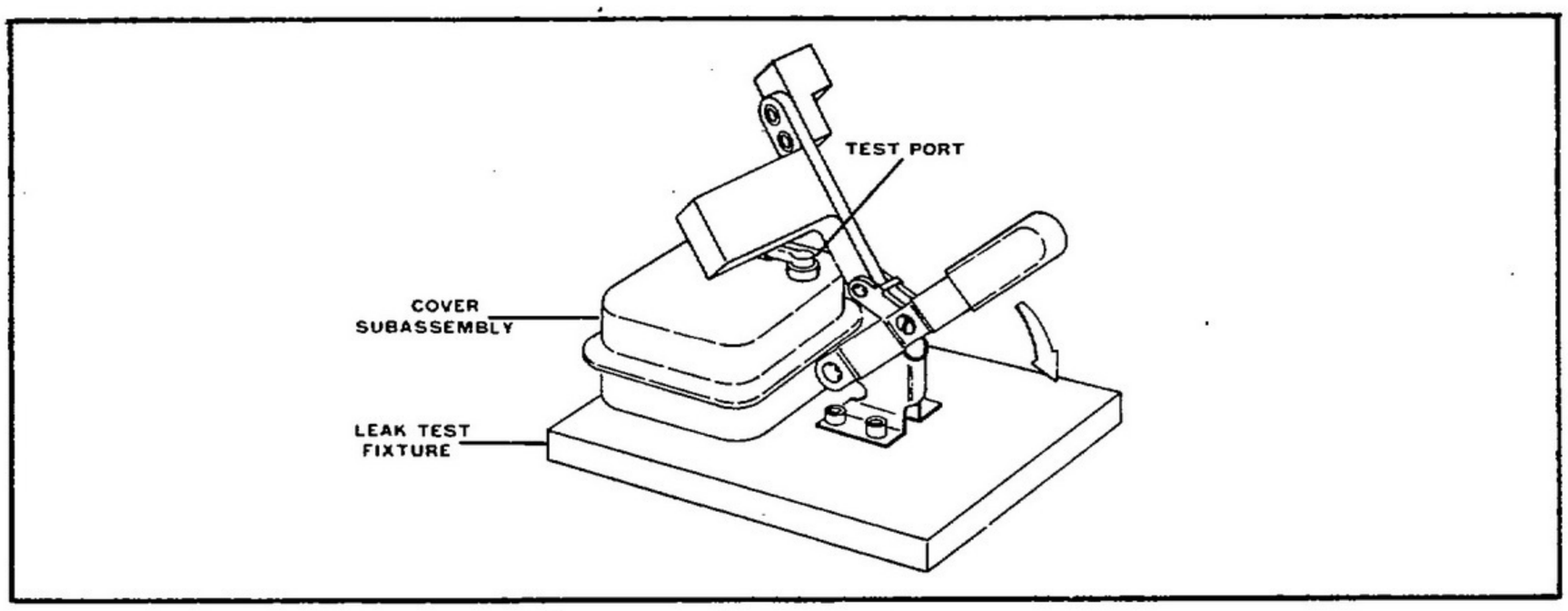
(3) Place plunger (18, IPL figure 1) with packing (17) installed, through cover subassembly (24). Place washer (15) on end of plunger (18). Place spring (16) in place and thread button (14) onto plunger (18) after applying a coat of Loctite, Grade C to plunger threads.

CAUTION: OXYGEN CONFORMING TO FEDERAL SPEC. MIL-O-27210, TYPE I, IS USED AS THE TEST GAS WHEN PERFORMING THE TESTS OUTLINED IN ASSEMBLY. IF NITROGEN OR AIR IS USED, APPROPRIATE DENSITY CORRECTION FACTORS SHALL BE APPLIED TO THE FLOW METER USED, TO CORRECT NOT ONLY THE EFFECT ON THE METER ITSELF, BUT ALSO THE EFFECT ON THE PERFORMANCE OF THE CONTROL UNIT WITH THE LOWER DENSITY GAS.

C. Leak test cover subassembly (24) in accordance with figure 601 and the following procedure.

(1) Place unit under test in leak test holding fixture (2, figure 1101) and lock in place with handle.

(2) Apply 15 psi to test port.



Cover Subassembly Leak Test Setup
Figure 601

(3) Coat all rolled fittings and area of lens (19, IPL figure 1) with leak test solution. No leakage shall be evident, refer to figure 901 for remedial action.

(4) After completion of test, close off oxygen source, remove unit from test setup, blow dry with a stream of clean, dry, oil-free air and continue assembly.

D. Set the items assembled in step B. (1) through (3) aside, and assemble items 156 through 159 to body assembly (161, IPL figure 1) as follows:

(1) Attach plates (156 and 158) to body assembly (161) with screws (157 and 159).

E. Assemble items 53 through 56 and 59 and 60 to lever assembly (61) as follows:

(1) Insert plate (56) on lever assembly (61).

(2) Assemble indicator (53) to lever assembly (61) with screw (54) and washer (55). Apply Loctite, Grade C to screw (54) prior to assembly.

(3) Place washers (59 and 60) on opposite end of lever assembly (61).

NOTE: Place flat side of washer (59) against washer (60).

F. Set items assembled in step E, (1) through (3), aside.

G. Assemble items (10) through (13) (except for 800802-03 and -05) on cover subassembly (24) as follows:

(1) Secure lever assembly (13) to cover subassembly (24) with pin (10).

(2) Retain pin (10) with pin (11) and washers (12). Apply Glyptal to pin (10), cotter pin (11) and washers (12).

H. Install filters (104 and 154) and screen (155) into housing assembly (161).

I. Assemble valve assembly (123 through 127) as follows:

(1) Place seat (126) and guide assembly (125) on stem (127).

NOTE: Chamfer side of seat (126) is next to guide assembly (125).

(2) Place spring (124) in place on guide assembly (125).

(3) Secure these items together by threading head (123) onto stem (127). Torque tighten in accordance with Table III.

NOTE: Apply Loctite, Grade C to threads of stem (127) prior to assembly. After applying Loctite, rest the item on the face of head (123) and allow to dry.

CAUTION: ALLOW SUFFICIENT DRYING TIME TO PREVENT LOCTITE FROM RUNNING INTO BORE OF GUIDE ASSEMBLY (125).

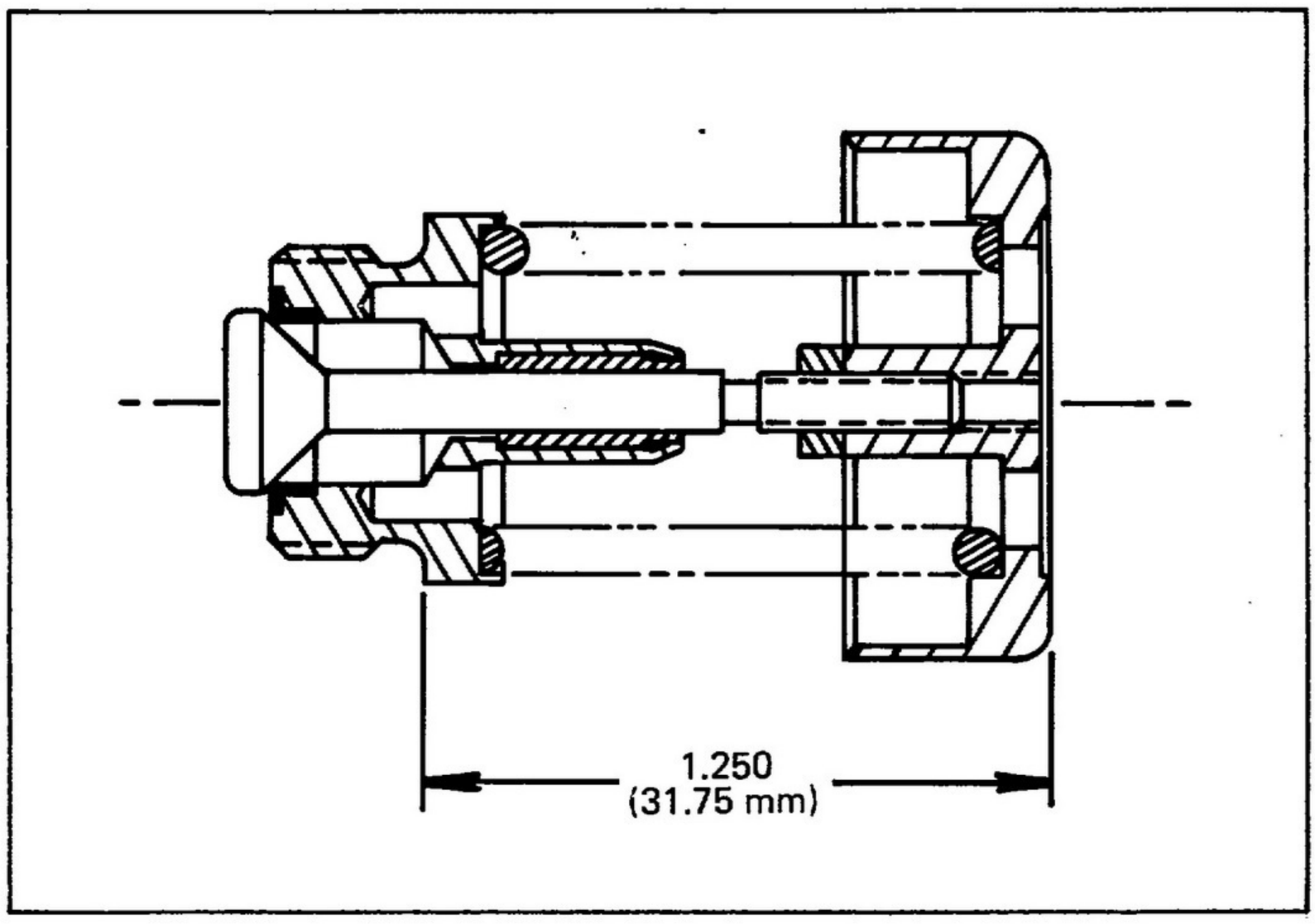
J. Place packing (128) in groove provided in body assembly (161). Thread assembled valve assembly (123 through 127) (refer to step I) into body assembly (161) and torque tighten in accordance with Table III.

K. Assemble valve assembly (149 through 153) as follows:

(1) Place guide and seat assembly (152) on stem (153).

(2) Thread nut (150) onto stem (153).

(3) Place spring (151) and guide and seat assembly (152) in place and thread piston (149) onto stem (153). Adjust piston (149) for dimension specified in figure 602. After adjustment, torque tighten nut (150, IPL figure 1) against inside face of piston (149) in accordance with Table III.



Flow Control Valve Assembly Adjustment
Figure 602

L. Place packing (147) in groove of guide and seat assembly (152). Place assembled valve assembly (149 through 153) into body assembly (161) using wrench (4, figure 1101) until physically restricted.

M. Assemble valve assembly (76 through 80, IPL figure 1) as follows:

(1) Place seat (79) and spring (78) onto stem (80). Coin seat (79) after assembly using stem (80).

(2) Thread nuts (76 and 77) onto stem (80). Adjust and lock nuts (76 and 77) so that the overall length from the bottom face of seat (79) to the top of nut (76) is 1.09 inches (27.686mm). Place packing (81) in groove of seat (79).

N. Place assembled valve assembly (76 through 80) into body assembly (161). Thread housing (74) into body assembly (161). Place packing (73) in groove of block (70) and secure block (70) to body assembly (161) with screws (71) and washers (72).

O. Place flat side of seal (103) against hex of union (102). Except for 800802-03 and -05, thread nut (106) on elbow (105) and place packing (107) on elbow (105); for 800802-03 and -05, place packing (107) on reducer (-105A). Place items assembled above aside.

P. Place packing (99) onto valve assembly (98). Prior to assembly of valve assembly (98) into body assembly (161), test in accordance with Testing, paragraph 8.A. Thread valve assembly (98) into body assembly (161). Place packing (101) on plug (100) using stylus (9, figure 1101) and thread into test port of body assembly (161, IPL figure 1).

Q. Leak test the first stage of the control unit in accordance with figure 603 and the following procedure.

(1) Close all test stand valves and switches and connect the unit inlet to connection (S), rotating the control unit so that first stage components are facing up. Connect a 2000 psi oxygen source to connection (W). Adjust regulator (X) for an indication of 200 psi on gauge (I).

(2) Cap the first stage area with a #10 rubber stopper equipped with a vent tube. Apply leak test solution across vent tube, no leakage shall be evident.

(3) After completion of test, adjust regulator (X) to bleed pressure from the test setup, remove the unit from the test stand, blow dry with a stream of clean, dry, oil-free air and continue assembly.

R. Replace packing (83) in groove of screw (82) using stylus (9, figure 1101).

S. Thread screw (82, IPL figure 1) into body assembly (161) until screw is flush with body assembly (161).

TEMPORARY REVISION 35-16

INSTRUCTIONS:

Insert this page facing page # 507.

REVISIONS:

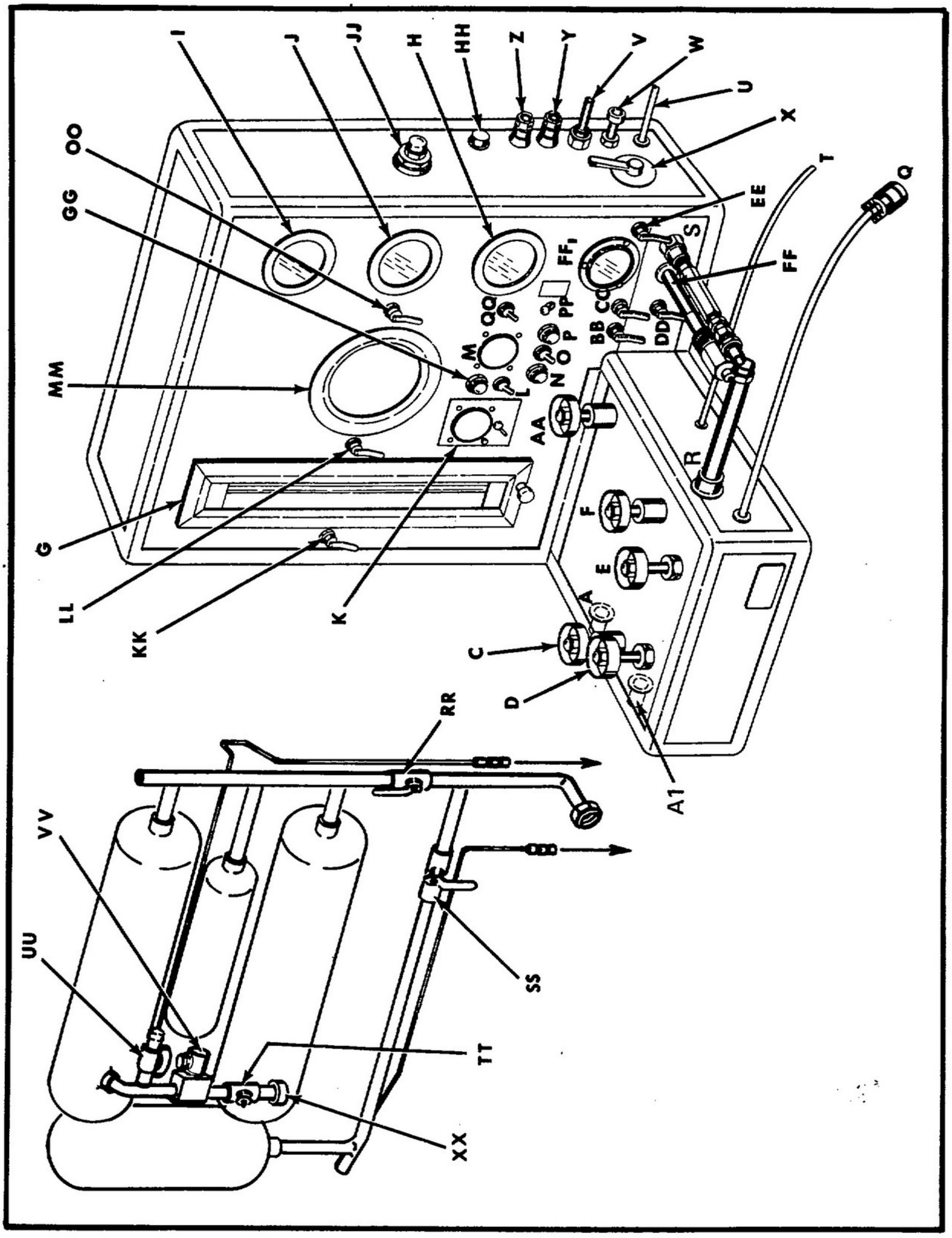
The revisions on this page are the following:

1. Original Text:

Test Stand
Figure 603

2. Revised Text:

Test Stand
(An equivalent test stand may be substituted.)
Figure 603



Test Stand
Figure 603

Legend for Figure 603

A_1. Connection for external flowmeter
A. Connection for external flowmeter
B. Valve (HIGH FLOW/LOW FLOW) (located on underside of deck)
C. Valve ON (high) - OFF (low) flow selector
D. Valve (vent)
E. Valve (vacuum)
F. Valve (flow control)
G. Flowmeter
H. Outlet Pressure Gauge (0-160 psi)
I. Inlet Pressure Gauge (0-3000 psi)
J. Outlet Pressure Gauge (0-60 psi)
K. Altimeter
L. Switch (vibrator)
M. Oxygen Pressure Indicator
N. Light (green)
O. Switch (energize solenoid)
P. Light (red)
Q. Electrical Connector (to unit under test)
R. Connection (to outlet of test unit)
S. Connection (to inlet of test unit)
T. Vacuum Tubing (to test port of test unit)
U. Electrical Cable (to 110 VAC outlet)
V. Connection (to external vacuum source)
W. Connection (to external oxygen/air/nitrogen source)
X. Regulator (regulates oxygen/air/nitrogen to test stand)
Y. Connection (for positive lead of 28 VDC external power source)
Z. Connection (for negative lead of 28 VDC external power source)
AA. Valve (volume cylinder shut-off)
BB. Valve (back pressure)
CC. Valve (first stage pressure)
DD. Valve (vent)
EE. Valve (gauge J shut-off)
FF. Connection (to test port of test unit)
FF_1. Gauge (0-160 psi - first stage back pressure)
GG. Light (indicator for vibrator)
HH. Fuse (115V vibrator circuit)
JJ. Regulator (first stage relief and back pressure)
KK. Valve (25 LPM surge vent)
LL. Manometer shut-off and calibration valve
MM. 0-100 psi gauge
OO. Valve (gauge MM shut-off)
PP. Surge System selector valve
QQ. Surge relay reset switch
RR. 800801 Surge System shut-off valve
SS. 22504-22505 Surge System shut-off valve
TT. 985 LPM controllable orifice
UU. Surge pressure switch
VV. Surge solenoid valve
WW. Surge relay
XX. 985 LPM Surge outlet

TEMPORARY REVISION 35-16

INSTRUCTIONS:

Insert this page facing page # 508.

REVISIONS:

The revisions on this page are the following:

1. Original Text:

Legend for Figure 603

2. Revised Text:

Legend for Figure 603
(Equivalent test equipment may be substituted for the listed items.)

T. Place packing (116) in groove of dampener (118). Position dampener (118) and bellofram (120) with fabric side against head of piston (121), secure with screw (119) and torque tighten in accordance with Table III. Apply Loctite, Grade C to screw (119) at assembly and allow sufficient time to dry. Dust bellofram (120) with lubricating powder and place assembled diaphragm assembly (118 through 121) in body assembly (161). Insert sleeve (114) and retainer (115) into body assembly (161) using wrench (6, figure 1101) and torque tighten in accordance with Table III.

NOTE: Apply sufficient pressure to wrench (6) to facilitate thread engagement.

U. Place washer (113, IPL figure 1), spring (111) and washer (112) in body assembly (161). Thread cap assembly (108) into the body assembly using wrench (6, figure 1101).

V. Adjust the first stage pressure and leak test actuation valve assembly (76 through 80, IPL figure 1) in accordance with figure 603 and the following procedure.

(1) Remove plug (100, IPL figure 1) from body assembly (161).

(2) Connect the control unit to connection (S, figure 603) and connection (R) of the test stand. Connect connection (FF) to test port of unit under test. Close all other test stand valves and switches and place valve (PP) in down position. Adjust regulator (X) for an indication of 500 psi on gauge (I).

(3) Adjust cap assembly (108, IPL figure 1) for an indication of 120 psi on gauge (FF_1, figure 603). Actuate valve (DD) intermittently during adjustment of cap (108, IPL figure 1).

NOTE Use wrench (6, figure 1101) to adjust the cap assembly.

(4) Pour sufficient distilled water into opening of block (70, IPL figure 1) to cover valve assembly (76 through 80). No leakage shall be evident.

NOTE: Use water sparingly. After leakage check, drain excess water and blow dry with stream of clean, dry, oil-free air.

(5) After adjustment, manually exercise valve assembly (149 through 153) several times. Check gauge (FF_1, figure 603) for an indication of 120 psi. First stage pressure shall remain at 120 psi after exercising the valve assembly.

NOTE: If first stage pressure cannot be set at 120 psi, refer to figure 901 for remedial action.

W. Apply a coating of Loctite, Grade C, to threads of aneroid (43, IPL figure 1), then thread aneroid into body assembly (161) using wrench (7, figure 1101).

X. Position frame (68, IPL figure 1) on body assembly (161) aligning mounting holes of the frame with holes in body assembly. Thread alignment tool (11, figure 1101) through the large diameter hole in frame (68, IPL figure 1) and into the hole provided for aneroid (65) in body assembly (161), until the tool bottoms out on the surface of body assembly (161).

Y. With alignment tool in place, adjust frame (68) until mounting holes are aligned with holes in body assembly (161). Secure the frame to body assembly (161) with screws (69) and apply Loctite, Grade C to screws (69). Unthread the alignment tool from the housing assembly.

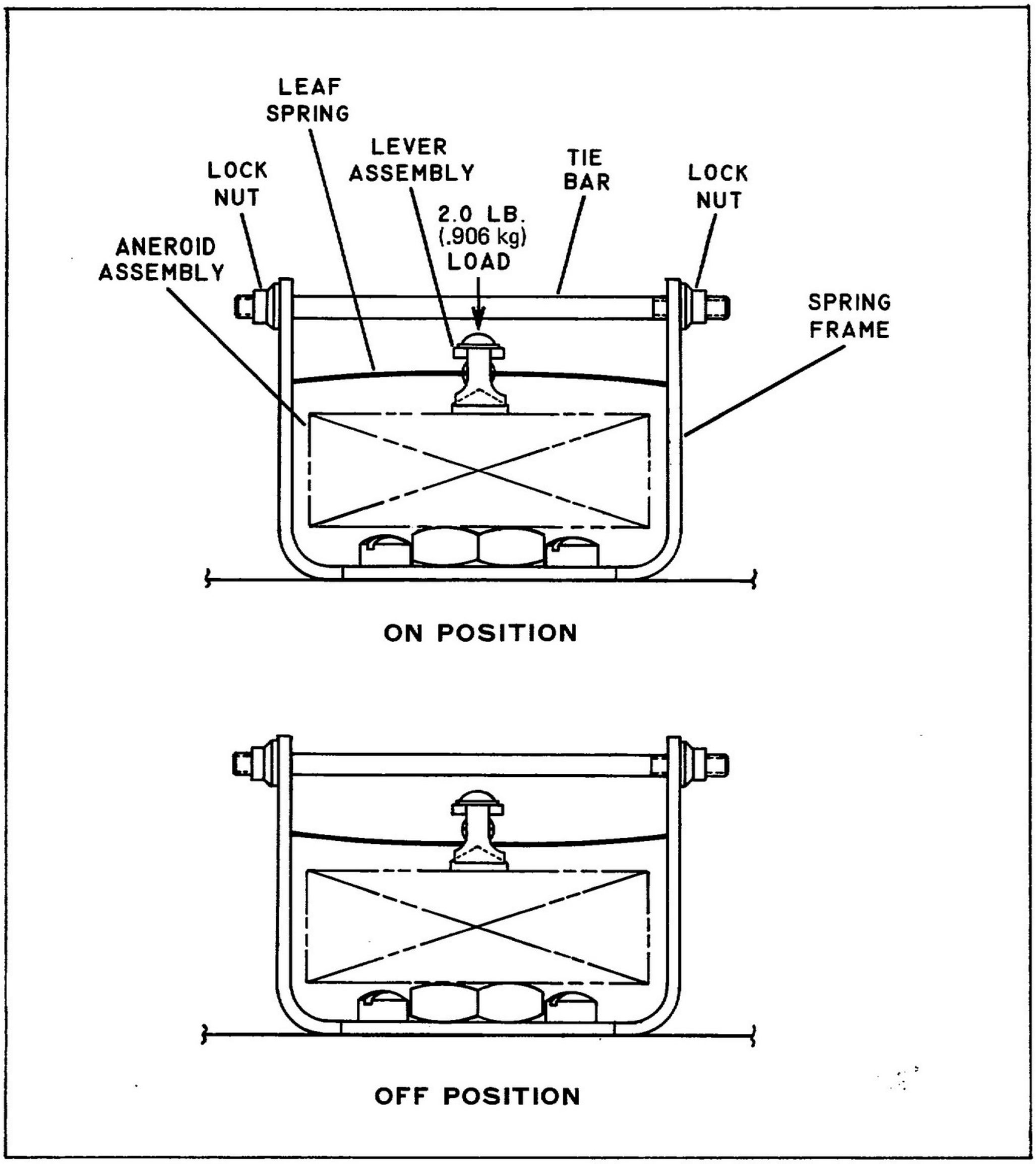
Z. Vent contained pressure from system using regulator (X, figure 603).

AA. Carefully thread aneroid (65, IPL figure 1) into body assembly (161) until it bottoms out finger tight. Mount the items assembled in step E. to block (70) with screws (57) and washers (58).

AB. Position spring (64) between lever assembly (61) and aneroid (65). Position the spring so that the ends of the spring line up with the slots of frame (68).

AC. Thread one nut (63) onto end of bolt (62). Slide bolt (62) through holes in frame (68) and thread on other nut (63). Turn nuts until ends of spring (64) are secured in slots of frame (68).

AD. Turn in nuts (63) until spring (64) is in "ON" position as illustrated in figure 604. Adjust the nuts until the spring snaps to the "OFF" position when a load of 2.0 pounds (.906 kg) is applied to lever assembly (61, IPL figure 1) and spring (64) as illustrated in figure 604.



Leaf Spring Adjustment
Figure 604

AE. Install gasket (51, IPL figure 1) into port of body assembly (161) and then thread seat assembly (50) into body assembly (161). Place spring (49) and stem (48) into port of body assembly (161). Thread nut (45) onto bellows assembly (44). Place packing (46) in groove of bellows assembly (44) using stylus (9, figure 1101).

AF. Insert pin (47, IPL figure 1) into bellows assembly (44); then thread the bellows assembly into body assembly (161) until packing (46) seats in chamfer provided in body assembly (161).

AG. Install insert (67) and setscrew (66) into body assembly (161), do not tighten.

AH. Place plate (146) against face of piston (149). Place packing (144) in groove without hole, of seat (142) (800802) or plug (-143) (800803). Dust bellofram (145) with lubricating powder and place over lip of seat (142), or plug (-143) fabric side out.

AI. Assemble orifice and diaphragm assembly (134 through 141) (800802 only) as follows:

(1) Place diaphragm (140) and ring (139) on orifice assembly (141) and secure in place with nut (138). Apply Loctite, Grade B to threads of nut (138) prior to assembly.

(2) Place screen (137), packing (136) and screen (135) into orifice assembly (141). Secure these items in the orifice assembly with setscrew (134).

NOTE: Prior to installing assembled orifice and diaphragm assembly (134 through 141) into body assembly (161), test in accordance with procedures in Testing, paragraph 8.B.

AJ. Place assembled orifice and diaphragm assembly (134 through 141) in body assembly (161) (800802 only).

AK. Place disc (131) and spring (132) into cap (129) (800802 only).

AK_1. Lubricate packing (130) with Krytox and place in groove of cap (129).

AL. Thread cap (129) into body assembly (161) until cap (129) bottoms, using wrench (5, figure 1101).

AM. Insert test plug (13) into block (70, IPL figure 1).

AN. Mount the items assembled in step A. to body assembly (161) as follows:

(1) Place spring (38) over setscrew (30).

(2) Mount support (39) to body assembly (161) with screws (40) and washers (41 and 42).

NOTE: Before tightening screws (40), align center of setscrew (31) with tip of bellows assembly (44), and center of other setscrew (31) with tip of aneroid (43).

(3) Assemble and adjust setscrews (37) so that lever (32) has approximately .001" (.0254 mm) clearance from support (39) and moves freely. Then tighten nuts (36).

(4) Apply Glyptal to nuts (36) and setscrews (37).

(5) Depress lever (32) at aneroid (43) and adjust setscrew (30) until lever (32) is horizontal. Apply Glyptal to cavity of lever (32) which houses setscrew (30).

(6) Adjust setscrew (31) to apply restraining pressure to bellows assembly (44).

AO. Install packing (95) to switch (92) and thread switch (92) into body assembly (161). Tighten sufficiently to effect a leak tight connection (800802 only).

NOTE: Place solenoid leads through appropriate body assembly (161) cavity before performing next step.

AP. Install leads of solenoid (5) into positions 4 and 5 of cable assembly (84) using suitable tool (800802 only). Install leads of solenoid (5) into positions 1 and 2 of connector (85) using suitable tool (800803 only).

AQ. Position cable assembly (84) on body (161) with pin 5 nearest mounting plate (28) and secure with screws (86) and washers (87) (800802 units only). Position connector (85) on body (161) with pin 7 opposite mounting plate (28) and secure with screws (86) and washers (87) (800803 units only).

AR. Place disc(s) (94) over terminals of pressure switch (92) and attach cable assembly to pressure switch (92) in accordance with figure 201, (800802 only) with washers (93, IPL figure 1) and terminal nuts.

NOTE: Additional discs (94) are used as required to ensure tight connection of cable assembly leads to the pressure switch.

AS. Glyptal and attach lug (89) on white wire (90) to body assembly (161) with screw (96) and washer (97). Connect black lead from cable assembly (84) to body assembly (161) with screw (96) and washer (97) (800802 only).

AT. To test solenoid (5), attach positive and negative poles of 28VDC power supply to pins 4 and 5 of cable assembly (84) (800802 only) or pins 1 and 2 of connector (85) (800803 only) momentarily. Solenoid (5) shall actuate.

AU. Adjust and test the partially assembled control unit in accordance with figure 603 and the following procedure.

(1) Connect the control unit to the test stand at connection (R), connection (S), and connection (FF).

(2) Slowly turn on external oxygen supply and adjust regulator (X) for 500 psi indication on gauge (I).

(3) Open valves (C) and (AA).

(4) Thread screw (82, IPL figure 1) into body assembly (161) 6 revolutions.

(5) Manually snap spring (64) to "ON" position. The control unit shall surge as indicated on gauge (H, figure 603). Adjust valve (F), to 1/4 open position. If pressure on gauge (H) remains near first stage pressure, leave valve (F) opened slightly and adjust screw (82, IPL figure 1) (clockwise) until pressure indication drops on gauge (H, figure 603). Keep adjusting screw (82, IPL figure 1) slowly until only a slight flow is heard at outlet of stand.

(6) Close valves (C) and (AA), figure 603. Attach a flowmeter to connection (A) and adjust screw (82, IPL figure 1) for an indication of 1.3 LPM on flowmeter. Open valve (AA, figure 603), close valve (F) and remove flowmeter from connection (A).

(7) Loosen setscrew (31, IPL figure 1) over bellows assembly (44), and place valve (EE, figure 603) in "ON" position.

(8) Loosen nut (45, IPl figure 1) and adjust bellows assembly (44) clockwise for a 1.3 psi indication on gauge (J, figure 603). Open valve (LL), and adjust valve (F) for an indication of 25 LPM on flowmeter (G). Lock bellows assembly (44, IPL figure 1) with nut (45). Recheck pressure and readjust if required. Close valve (EE, figure 603).

(9) Adjust setscrew (31, IPL figure 1) until a clearance of 0.001 inch (.0254 mm) is attained between setscrew (31) and bellows assembly (44) (see figure 605). Lever (32, IPL figure 1) shall be manually bottomed against setscrew (30) when this is adjusted.

(10) Manually reset spring (64). Open valve (C, figure 603). Close valve (F). Vent contained pressure through regulator (X). Attach vacuum tubing (T) to test port of test cover (12, figure 1101) and place the test cover on the control unit. Close valve (D, figure 603) and open valve (E) until spring (64, IPL figure 1) emits an audible click. The click shall occur between 13,900 and 14,100 feet as indicated on altimeter (K, figure 603) for -01 and -03 units; for -02 units, between 12,900 and 13,100 feet; for -04 and -05 units, between 14,400 and 14,600 feet.

(11) Close valve (E), open valve (D) to return system to ground level.

(12) Adjust position of aneroid (65, IPL figure 1) by trial and error until proper altitude actuation occurs.

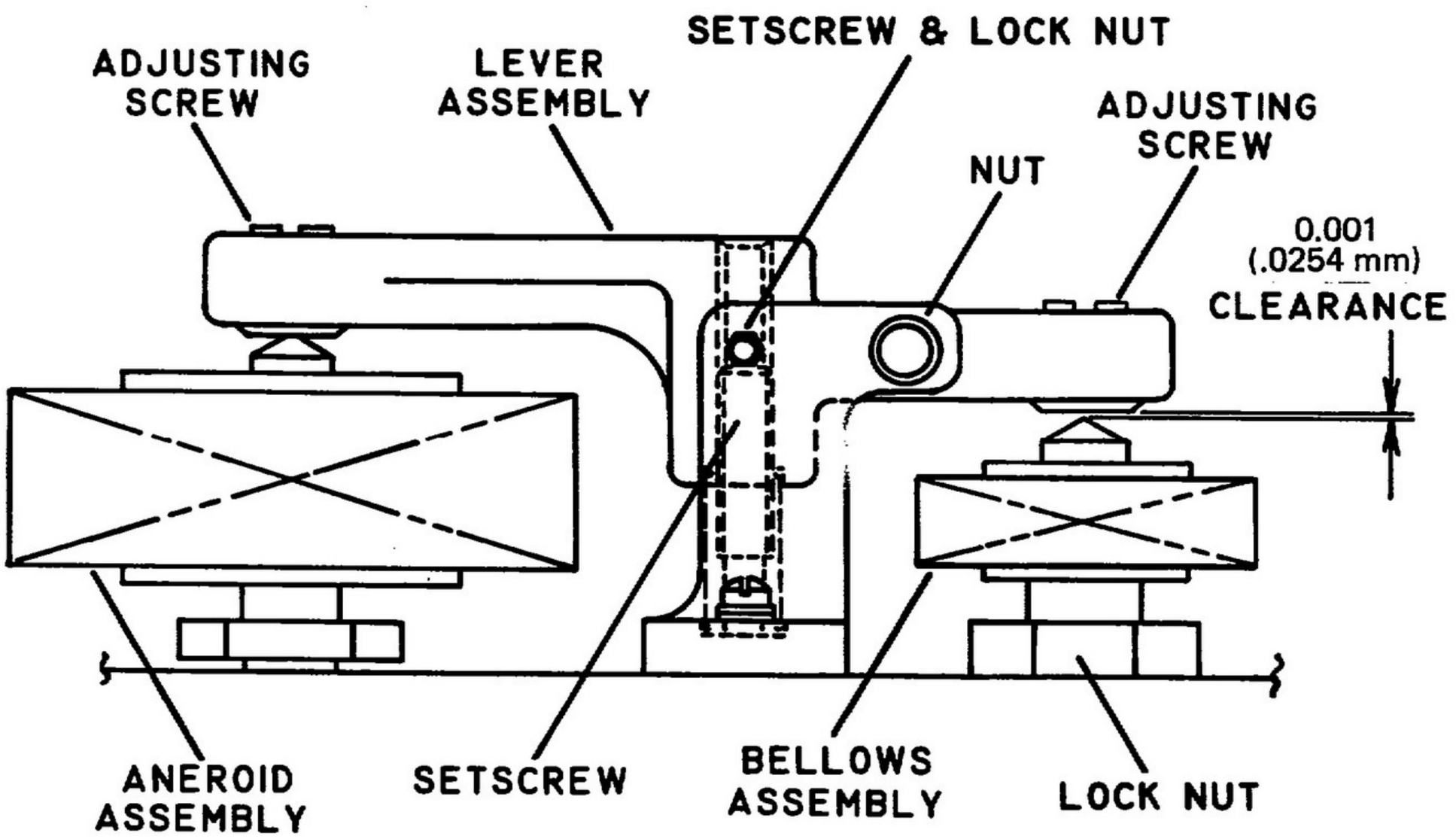
(13) Tighten setscrew (66).

NOTE: Loosen setscrew (66) for each new position of aneroid (65). Retighten setscrew prior to rechecking for altitude actuation.

(14) Manually reset spring (64) to "OFF" position.

(15) Apply 500 psi to system using regulator (X, figure 603) and indicated on gauge (I).

(16) Place test cover (12, figure 1101) on unit under test.



Lever Assembly Adjustment
Figure 605

(17) Close valve (D, figure 603) and adjust valve (E). While adjusting valve (E), watch gauge (H). Using a stop watch, check the time elapsed from control unit turn on (surge) until the surge reaches 50 psi minimum. Time elapsed shall be a maximum of 7 seconds. Turn on altitude shall be between 13,250 and 14,500 feet for -01 and -03 units, 12,250 to 13,500 feet for -02 units and 14,000 to 15,000 feet for -04 and -05 units.

NOTE: If time elapsed is more than 7 seconds or a mimimum of 50 psi is not attained, check for 0.001 (.0254 mm) clearance (see figure 605). For 800802, replace packing (136, IPL figure 1) and adjust setscrew (134). After any adjustment of setscrew (134), repeat step (17) to ensure elapsed time of 7 seconds maximum. After final adjustment, stake setscrew (134) to maintain setting.

(18) Close valve (LL, figure 603) and vent system by opening valve (F).

(19) Close valves (C) and (F). Adjust valve (E) for 20,000 feet indication on altimeter (K), open valves (EE) and (OO) and check indicated pressure on gauge (MM).

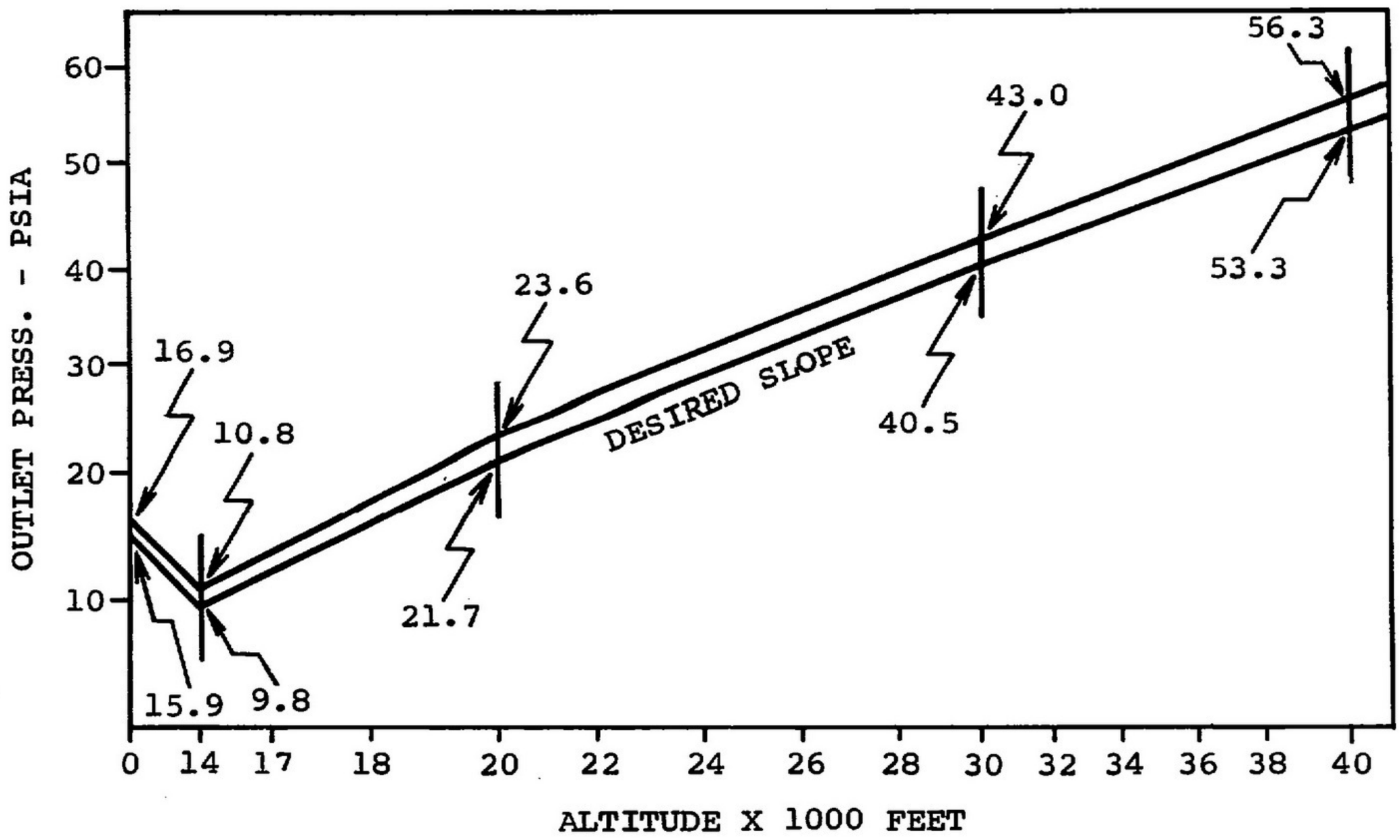
(20) Open valve (LL) and adjust valve (F) for a flow indication of 25 LPM on flowmeter (G). Pressure indication on gauge (MM) shall be between 21.7 and 23.6 psia.

(21) If pressure is not between 21.7 and 23.6, close valves (F) and (E), open valve (D) and return system to ground level. Remove test cover and adjust setscrew (31, IPL figure 1) over aneroid (43). To increase pressure indication turn setscrew (31) clockwise.

(22) Close valves (D) and (F), figure 603. Adjust valve (E) for 20,000 feet indication on altimeter (K).

(23) Adjust valve (F) for an indication of 25 LPM on flowmeter (G). Read pressure indication on gauge (MM) and record on graph paper prepared in accordance with figure 606.

(24) Close valve (F, figure 603) and adjust valve (E) for 40,000 feet on altimeter (K). Adjust valve (F) for an indication of 25 LPM on flowmeter (G). Read pressure indication on gauge (MM) and record on graph. Close valve (E) and open valve (D) until altimeter (K) indicates ground level. Close valve (LL), open valves (C) and (F) fully to vent system. Close valve (F).



Graph
Figure 606

(25) Draw a line between the pressure indications recorded in steps 23 and 24. This line shall be parallel with the desired slope.

NOTE: If the angle of the line drawn is greater than the angle of the desired slope, loosen screws (40, IPL figure 1) and adjust support (39) in the direction of aneroid (43) and tighten screws (40). If the angle is less than the angle of the desired slope, adjust support away from aneroid (43). Repeat steps (22) through (24) until desired slope is achieved. After desired slope is achieved, apply Glyptal to base of support (39) on body assembly (161).

(26) Close valves (C) and (D), figure 603. Adjust valve (E) for 40,000 feet on altimeter (K). Open valve (LL) and adjust valve (F) for 25 LPM on flowmeter (G). Gauge (MM) shall indicate below 56.3 psia.

(27) Open valve (C) and adjust valve (F) for an indication of 1270 LPM on flowmeter (G). Gauge (MM) shall indicate above 53.3 psia.

(28) Close valve (E), open valve (D) until 20,000 feet is indicated on altimeter (K).

(29) Adjust valve (F) for an indication of 535 LPM on flowmeter (G). Gauge (MM) shall indicate above 21.7 psia. Close valve (E), open valve (D) and return to ground level.

(30) Reset leaf spring (64, IPL figure 1) and vent all contained gas from system through valve (F, figure 603).

(31) Close valves (F), (AA), (EE), and (OO). Open valve (BB). Adjust regulator (JJ) for an indication of 100 psi on gauge (H). Adjust regulator (X) to produce a 2000 psi indication on gauge (I), hold in this condition for two minutes. After two minutes, close valve (BB) and slowly open valve (F) until gauge (H) indicates zero.

(32) Close valves (F) and (LL). Reduce pressure indication on gauge (I) to 500 psi using regulator (X).

(33) Install test cover (12, figure 1101) to unit under test and open valve (AA, figure 603).

(34) Close valve (D) and adjust valve (E) until control unit turns on automatically.

(35) Adjust valve (E) for an indication of 20,000 feet on altimeter (K).

(36) Slowly open valve (F) and vent system until gauge (H) stabilizes.

(37) Close valves (C), (F) and (LL).

(38) Open valves (EE) and (OO).

(39) Repeat steps (20) through (22).

(40) Repeat step (19) as required. If any adjustment of setscrew (31, IPL figure 1) is required, repeat step (29), then steps (22) through (29).

NOTE: Steps (22) through (29) must be repeated until unit functions properly after accomplishing step (31).

(41) Reset leaf spring (64) and vent all pressure from system using valve (F, figure 603) and regulator (X).

(42) Close all valves and switches, remove the unit from the test stand, remove all test plugs and fittings and complete assembly.

AV. Apply Loctite, Grade C to setscrews (31, IPL figure 1) and Glyptal to nuts (34), (36) and (63) and bolt (62).

AW. Thread detent assembly (52) into block (70) using wrench (1, figure 1101).

AX. Place gaskets (9 and 27, IPL figure 1) and cover subassembly (24) onto body assembly (161) and secure with screws (25) and washers (26).

AY. Adjust detent assembly (52) until top is flush with cover subassembly (24).

AZ. Secure solenoid (5) and wire (90 or 91) to cover subassembly (24) with screws (6) and washers (7).

BA. Place insert (110) and setscrew (109) in body assembly (161) to lock cap assembly (108) in place.

NOTE: To facilitate testing, cover aneroid setscrew (66) port with plastic tape.

BB. Test partially assembled control unit in accordance with procedures in Testing, paragraph 8.C.

BC. Secure plate (28) to body assembly (161) with screws (29).

BD. Thread union (102) and seal (103) into body assembly (161).

BE. Except for 800802-03 and -05, thread elbow (105), nut (106) and packing (107), previously assembled in step 0, into body assembly (161). For 800802-03 and -05, thread reducer (-105A) and packing (107) previously assembled in step 0, into body assembly (161).

7. Fits and Clearances

A. Table III presents the torque values necessary to assemble the unit.

UNIT	TORQUE lbf. in (N. m)
Retainer (115, IPL figure 1)	135 (15.26)
Screw (119)	10 (1.13)
Valve Assembly (122)	190 (21.47)
Stem (127)	5 (.57)
Nut (150)	6 (.68)

Assembly Torque Values
Table III

TEMPORARY REVISION 35-16

INSTRUCTIONS:

Insert this page facing page # 701.

REVISIONS:

The revisions on this page are the following:

1. Original Text:

   8. Testing

2. Revised Text:

   8. Testing

      NOTE: For Figures 801 thru 804, equivalent test equipment may be substituted for test equipment shown.

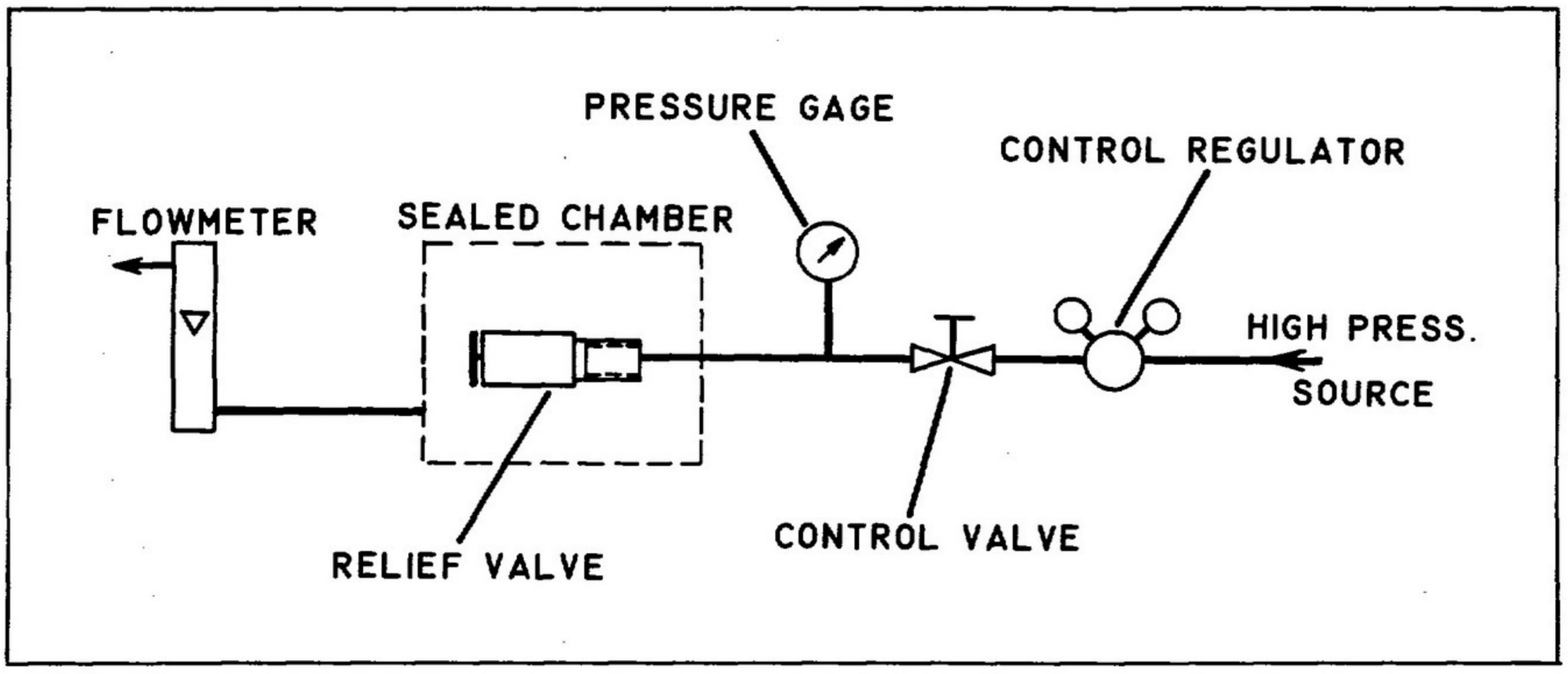
8. Testing

NOTE: The following test procedures apply to all configurations of 800802 and 800803 control units unless otherwise noted.

NOTE: When performing test procedures outlined in this section, close valve (SS, figure 603), open valve (RR), and place selector valve (PP) in 800801 (up) position unless otherwise noted.

CAUTION: OXYGEN CONFORMING TO FEDERAL SPEC. MIL-O-27210, TYPE I, IS USED AS THE TEST GAS WHEN PERFORMING THE TESTS OUTLINED HEREIN. IF NITROGEN OR AIR IS USED, APPROPRIATE DENSITY CORRECTION FACTORS SHALL BE APPLIED TO THE FLOW METER USED, TO CORRECT NOT ONLY THE EFFECT ON THE METER ITSELF, BUT ALSO THE EFFECT ON THE PERFORMANCE OF THE CONTROL UNIT WITH THE LOWER DENSITY GAS. ALL FLOWS ARE NOTED IN LPM (NTPD).

A. Perform a relief valve assembly test in accordance with figure 801 and the following procedure.



Relief Valve Test Setup
Figure 801

(1) Gradually increase pressure applied to the relief valve assembly. The relief valve assembly shall open at 140 ± 10 psig.

(2) Increase pressure to relief valve assembly until a 1270 LPM flow is indicated on flowmeter. The applied pressure required to maintain this flow shall not exceed 170 psig.

(3) Decrease pressure. Valve shall reseat at 100 psig minimum with a maximum leakage of 0.01 LPM (10 cc/min) NTPD.

B. Adjust packing (136, IPL figure 1) to restrict oxygen flow as follows:

(1) Connect assembled orifice and diaphragm assembly (134 through 141) to a controlled oxygen source.

(2) Apply 90 psi to assembly and adjust setscrew (134) until a 0.45 LPM flow, as measured on a flowmeter is attained.

(3) Stake setscrew (134) in two places to retain setting.

C. Test pressure switch (92) actuation on 800802 units as follows:

(1) Connect a 28VDC power supply to the test stand (figure 603) at connections (Y) and (Z).

(2) Close all valves and place valve (PP) in the down position.

(3) Connect the control unit to the test stand at connections (R), (S), and (FF) and electrical connector (Q). Light (N) shall illuminate.

(4) Open valves (BB), (EE) and (OO).

(5) Check indication on gauge (MM) and record.

(6) Using regulator (JJ), slowly induce pressure to the control unit outlet port. Light (N) shall extinguish. Note and record the pressure indication on gauge (MM) at which pressure switch (92, IPL figure 1) activates and light (P, figure 603) illuminates.

(7) Reduce input pressure at regulator (JJ).

(8) Slowly vent contained pressure from the system using valve (F). Light (P) shall extinguish. Note and record pressure indication on gauge (MM) at which pressure switch (92, IPL figure 1) resets and light (N, figure 603) illuminates.

(9) From both psia readings, subtract the room ambient pressure recorded in step (5). The resulting figures are the psig values at which pressure switch (92, IPL figure 1) activates and resets.

NOTE: Pressure switch shall activate and light (P, figure 603) illuminate at 7.5 ± 2.5 psig. When pressure is relieved, pressure switch shall reset and lamp (N) shall illuminate at 0.5 ± 0.5 psig.

(10) Close valves (F), (BB), (EE), and (OO).

D. Functionally test the assembled control unit in accordance with the following procedures.

(1) Perform an external leakage test (at simulated operating condition) in accordance with figure 802 and the following procedure.

a. Place the unit in a sealed chamber and apply 2000 psi to the inlet and 65 psi to the outlet.

b. External leakage shall not exceed 0.010 LPM (10 cc/min) as indicated on flowmeter.

(2) Perform an internal leakage test (at non-operating conditions) in accordance with figure 803 and the following procedure.

a. Apply 2000 psi to the inlet.

b. Leakage shall not exceed 0.005 LPM (5 cc/min) as indicated on flowmeter either during or at end of test.

(3) Perform electrical operation of 800803 control units as follows:

a. Connect control unit to test stand (figure 603) at connections (R) and (S) and electrical connector (Q) and close all valves.

b. Switch 28VDC power supply on.

c. Induce 500 psi, as indicated on gauge (I), to the system using regulator (X).

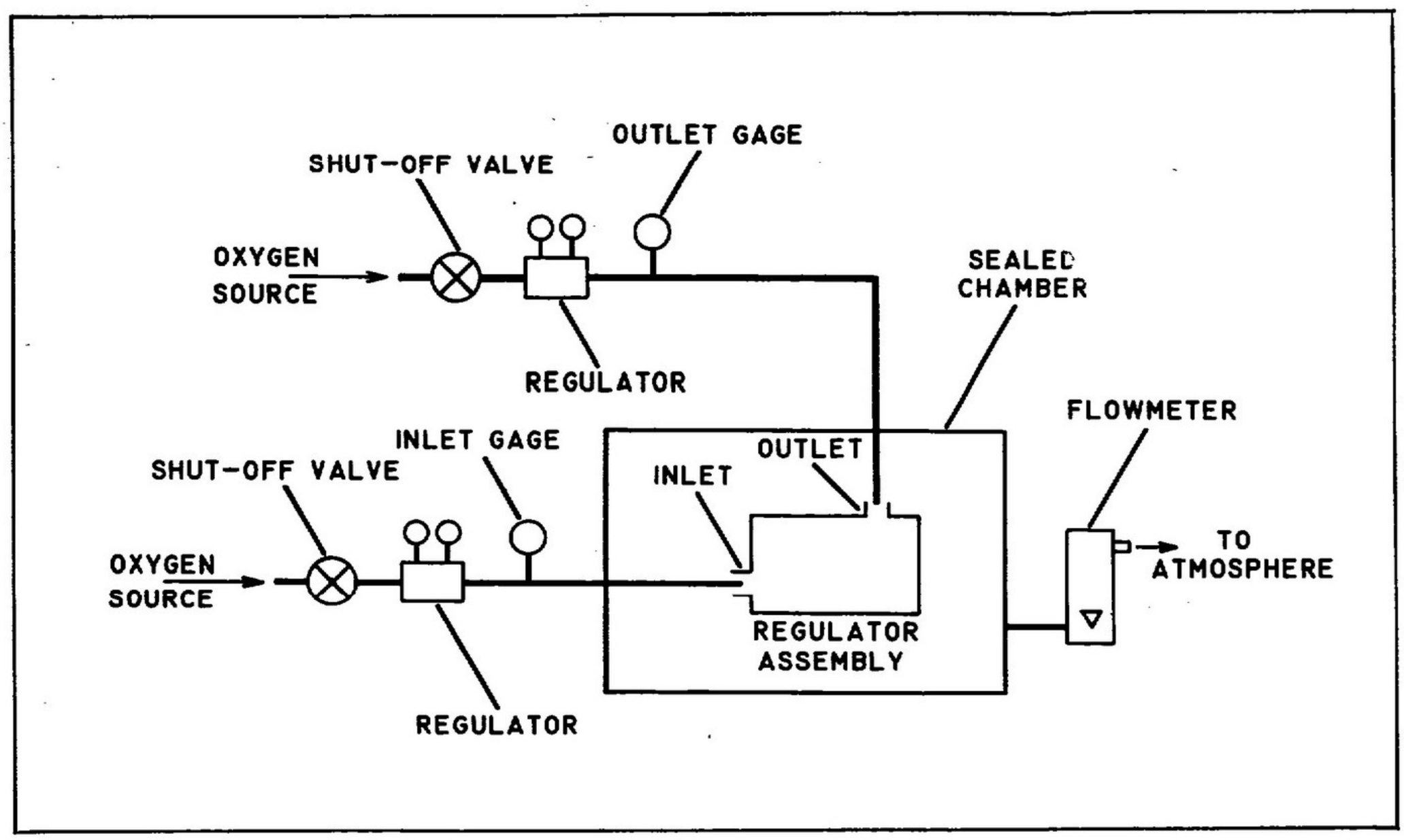
d. Open valve (C).

e. Energize solenoid by placing switch (O) in the on position momentarily. Unit shall activate.

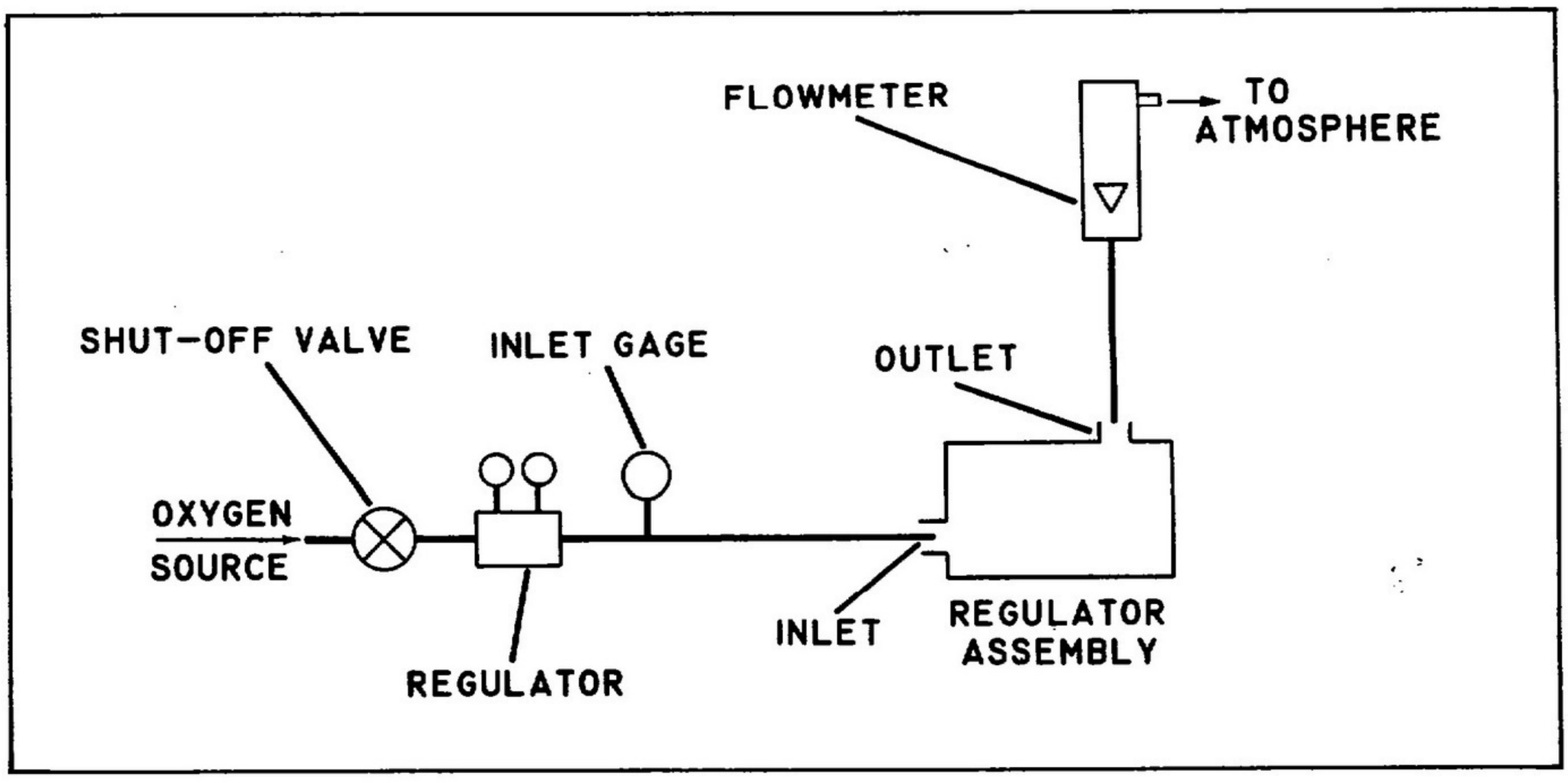
f. Open valve (F). Gas shall flow from high flow port of test stand.

g. Depress lever assembly (13, IPL figure 1) to reset control unit. System shall exhaust.

h. Exhaust system pressure through regulator (X).



External Leakage Test Setup
Figure 802



Internal Leakage Test Setup
Figure 803

(4) Perform electrical operation of 800802 control units as follows:

a. Connect control unit to test stand (figure 603) at connections (R), (S) and (T) and electrical connector (Q) and close all valves.

b. With 28VDC power supply on, light (N) shall illuminate.

c. Induce 500 psi, as indicated on gauge (I), to the system using regulator (X).

d. Open valve (AA), place valve (PP) in the up position and switch (QQ) in the down position.

e. Place switch (L) in the up position.

f. Open valve (E) until 10,000 feet altitude is indicated on altimeter (K).

g. Actuate unit by placing switch (O) in the up position momentarily. Unit shall surge, light (N) shall extinguish and light (P) shall illuminate.

h. Place switch (QQ) in the up position momentarily and reset the control unit by depressing lever assembly (13, IPL figure 1).

NOTE: On 800802-03 and -05, depress button (14).

i. Open valve (C, figure 603) and vent contained pressure through valve (F).

j. Light (P) shall extinguish and light (N) shall illuminate.

k. Close valve (E), open valve (D) and return system to ground level.

l. Place switch (L) in the down position, vent inlet pressure using regulator (X) and remove control unit from test stand.

(5) Perform a flow test in accordance with figure 603 and the following procedure.

a. Open valve (C) and (AA). Close all other valves. Turn switch (L) off.

b. Connect the control unit to connection (R) and connection (S) of the test stand. Attach vacuum tubing (T) to the test connection provided on the cover of the control unit.

c. Turn switch (L) "ON".

d. Slowly turn on external oxygen supply and regulate with regulator (X) for 500 psi indication on gauge (I).

e. Adjust valve (E) until the control unit actuates. (The control unit shall surge at an altitude of 13,250 to 14,500 feet for -01 and -03 units, 12,250 to 13,500 feet for -02 units and 14,000 to 15,000 feet for -04 and -05 units, as indicated on altimeter (K).) For 800802 series, the control unit shall surge to not less than 50 psi as indicated on gauge (H), in 7 seconds, maximum. After the initial pressure surge, vent pressure by opening valve (F).

NOTE: Control Units 800802 series will surge audibly. Control Unit 800803 will click only. Flow will have to be drawn to confirm actuation (by vacuum).

f. Close valves (F) and (C).

g. Adjust valve (E) for an indication of 40,000 feet on altimeter (K). Open valves (E) and (LL). Open valve (OO) slowly. Adjust valve (F) for a flow of 25 LPM as indicated on flowmeter (G). Gauge (MM) shall indicate 53.3 to 56.3 psia.

h. Open valve (C).

i. Adjust valve (F) for a flow of 1270 LPM as indicated on flowmeter (G). Gauge (MM) shall indicate 53.3 to 56.3 psia. Close valve (F).

j. Adjust valves (D) and (E) for an indication of 30,000 feet on altimeter (K). Open valve (F) to vent system until gauge (MM) stabilizes. Close valves (F) and (C). Adjust valve (F) until 25 LPM is indicated on flowmeter (G). Gauge (MM) shall indicate 40.5 to 43.0 psia.

k. Open valve (C) and adjust valve (F) for a flow of 985 LPM as indicated on flowmeter (G). Gauge (MM) shall indicate 40.5 to 43.0 psia. Close valve (F).

l. Adjust valves (D) and (E) for an indication of 20,000 feet on altimeter (K). Open valve (F) to vent system until gauge (MM) stabilizes. Close valves (F) and (C).

m. Adjust valve (F) until 25 LPM is indicated on flowmeter (G). Gauge (MM) shall indicate 21.7 to 23.6 psia.

n. Open valve (C). Adjust valve (F) for a flow of 535 LPM as indicated on flowmeter (G). Gauge (MM) shall indicate 21.7 to 23.6 psia. Close valve (F).

o. Adjust valves (D) and (E) for an indication of 12,000 feet for -01, -03, -04 and -05 units and 11,000 feet for -02 units, on altimeter (K). Open valve (F). Manually depress lever assembly (13, IPL figure 1) on the control unit (button (14) on 800802-03 and -05). Control unit indicator shall indicate "OFF". Close valve (F, figure 603).

p. Adjust valves (D) and (E) for ground level.

q. Close valves (EE), (LL) and (OO).

(6) Perform a pressure and surge duration test on 800802 control units in accordance with figure 804 and the following procedure.

a. Apply 500 psig to the inlet port.

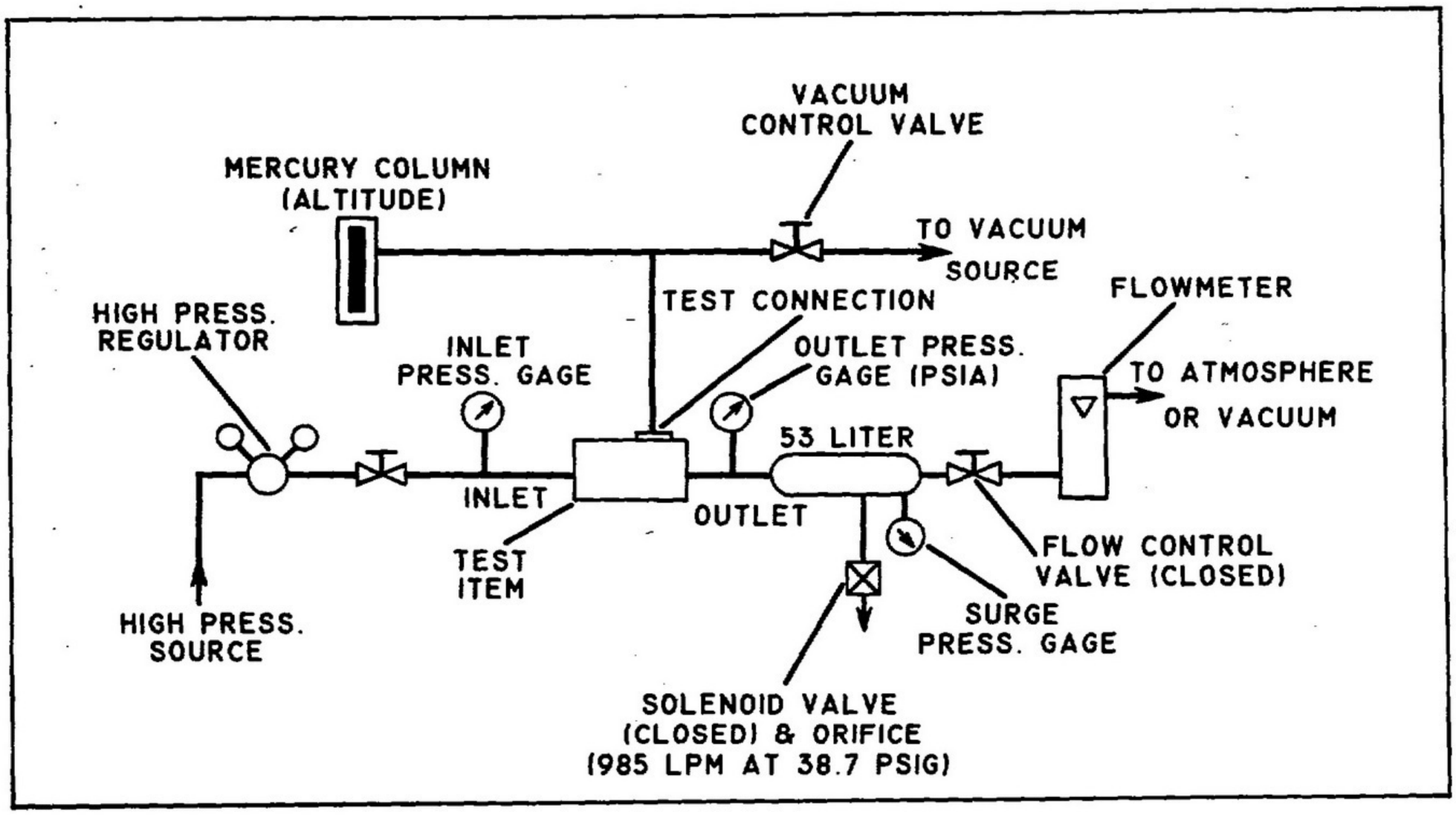
b. Place valve (PP, figure 603) in up position, and switch (QQ) in down position.

c. Hold down the manual reset lever or button (14) (to prevent actuation) and adjust valves (D) and (E) until an altitude of 30,000 feet is indicated on altimeter (K).

d. Release manual reset lever and allow unit to actuate. When surge pressure reaches 50 psig, solenoid valve (VV) opens automatically and flow exhausts from outlet (XX).

e. Time the duration from surge initiation until return of outlet pressure to the regulated pressure for 30,000 feet, (36.1 to 38.6 psig as indicated on gauge (H)). Time shall be between 8 and 20 seconds.

f. After stabilization of gauge (H) place switch (QQ) in reset position.



Inlet Pressure and Surge Duration Test Setup
Figure 804

g. Place switch (QQ) in "OFF" position and adjust valves (D) and (E) for a ground level indication on altimeter (K).

h. Depress reset lever (13, IPL figure 1) (depress button (14) on 800802-03 and -05) to reset unit, open valve (F, figure 603) and vent system.

(7) Perform an inlet pressure test in accordance with figure 804 and the following procedure.

a. Close valve (F, figure 603) and place valve (PP) in down position.

b. Adjust valves (D) and (E) until unit actuates automatically.

c. Open valve (F) fully and vent system.

d. Using regulator (X), adjust inlet pressure to 100 psi as indicated on gauge (I).

e. Adjust valve (E) to attain 14,000 feet indication on altimeter (K).

f. Close valve (C).

g. Open valves (EE) and (OO).

h. Attach an external flowmeter and a controllable vacuum source to connection (A).

i. Draw a 20 LPM flow. Flow pressures as indicated gauge (MM) shall be between 9.8 and 10.8 psia.

j. Close valve (F).

k. Adjust valves (D) and (E) for ground level.

l. Depress lever (13, IPL figure 1) (depress button (14) on 800802-03 and -05) to reset unit.

m. Open valve (C, figure 603).

n. Open valve (F) to vent system.

o. Close valves (OO) and (EE).

p. Vent inlet pressure to zero indication on gauge (I) using regulator (X).

q. Remove control unit from test stand.

9. Trouble Shooting

A. See figure 901 for trouble shooting chart.

TROUBLE	PROBABLE CAUSE	REMEDY
Leakage evident when leak testing cover subassembly (24, IPL figure 1) (refer to Assembly, step C)	Faulty rolled fittings	Seal leaks by applying Hy-Car Latex to joints of rolled fittings
	Screws (20, IPL figure 1) not tight enough	Tighten screws
	Faulty gasket (23)	Replace gasket
	Damaged cover subassembly (24)	Replace cover subassemby
Leakage evident when leak testing first stage components (refer to Assembly, step O)	Faulty packing (128)	Replace packing
	Scored, scratched or damaged seat (126)	Replace valve seat
	Valve assembly (123 through 127) loose in body assembly (161)	Tighten pressure reducer valve assembly
	Contamination in valve seat area	Clean contaminated area
Unable to set up first stage pressure (refer to Assembly,step T)	Punctured or damaged bellofram (120)	Replace bellofram
	Faulty spring (111)	Replace spring
	Spring (111) not seating properly	Check seating of spring

Trouble Shooting Chart (Sheet 1 of 3)
Figure 901

TROUBLE	PROBABLE CAUSE	REMEDY
Leakage evident when leak testing actuation valve assembly (76 through 80)	Scored, scratched or damaged seat (79)	Replace valve seat
	Scratched seating area or damaged stem (80)	Replace stem
	Block (70) loose	Tighten housing
	Faulty packing (81)	Replace packing
Solenoid operates but unit does not stay on	Detent assembly (52) improperly set	Reset detent assembly per Assembly, step AY
Control unit fails to actuate at proper altitude	Aneroid (65) not adjusted properly	Adjust aneroid assembly per Assembly, step AA
	Bolt (62) tension not properly adjusted	Adjust per Assembly, steps AC and AD
	Faulty aneroid (65)	Replace aneroid
Outlet pressure of control unit fails to stabilize at the proper pressure after initial pressure surge	Damaged orifice surface on seat (142)	Replace seat
	Leakage at orifice and diaphragm assembly (134 through 141)	Replace defective parts
	Faulty bellows assembly (44)	Replace bellows assembly
	Pilot flow out of adjustment	Adjust screw (82)
	Damaged seat on orifice assembly (141)	Replace orifice assembly
Outlet pressure of control unit fails to stabilize at the proper pressure at altitude	Setscrew (31) not adjusted properly	Adjust setscrews per Assembly, step AU, (7), (8) and (9)
	Pilot flow out of adjustment	Adjust screw (82)

Trouble Shooting Chart (Sheet 2 of 3)
Figure 901

TROUBLE	PROBABLE CAUSE	REMEDY
Surge time exceeds 7 seconds maximum	Orifice and diaphragm assembly (134 through 141) not adjusted properly	Adjust orifice and diaphragm assembly per Testing, step B, (1), (2) and (3)
Unable to obtain proper slope	Support (39) not positioned properly	Position support per Assembly, step AU, (25) note
Outlet pressure span at altitude not within tolerance	Pin (47) not free in bellows assembly (44)	Replace pin
	Damaged seat assembly (50)	Replace seat assembly
	Leakage through gasket (51)	Replace gasket
	Valve assembly (149 through 153) not properly adjusted	Adjust guide and seat assembly (152) per Testing, step K, (3)
	Lever assembly (32 through 37) not free in support (39)	Adjust per Assembly, step A, (1), (2), (3) and (4)
Unscheduled actuation (with or without surge)	Leakage at valve assembly (76 through 80)	Replace seat (79)

Trouble Shooting Chart (Sheet 3 of 3)
Figure 901

10. Storage Instructions

A. Cap inlet and outlet fittings with protective closures.

B. Wrap the control unit to prevent dust or other foreign matter from entering. Do not use any preservative coating on the control unit.

TEMPORARY REVISION 35-16

INSTRUCTIONS:

Insert this page facing page # 1001.

REVISIONS:

The revisions on this page are the following:

1. Original Text:

   A. All special tools and test equipment ... are listed in figure 1101 and illustrated in figure 1102.

2. Revised Text:

   A. All special tools and test equipment required to overhaul the control unit are listed in Figure 1101 and illustrated in Figure 1102. Equivalent special tools and test equipment may be substituted for the listed and illustrated items.

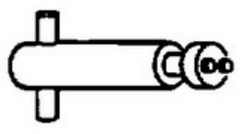
11. Special Tools, Fixtures and Test Equipment

A. All special tools, fixtures and test equipment required to overhaul the control unit are listed in figure 1101 and illustrated in figure 1102.

FIGURE 1102 ITEM NO.	*PART NUMBER	PART NAME	APPLICATION
1	25316-T91-1	Wrench	Used to remove/install detent assembly (52, IPL figure 1)
2	25682-T58-1	Leak Test Holding Fixture	Used to leak test cover subassembly (24)
3	800801-00-T53-1	Test Stand	Used to test the control unit
4	800801-T91-1	Wrench	Used to remove/install valve assembly (149 through 153)
5	800801-T91-2	Wrench	Used to remove/install cap (129)
6	800801-T91-3	Wrench	Used to remove/install cap assembly (108) and retainer (115)
7	800801-T91-4	Wrench	Used to remove/install aneroid (43)
8	800801-T91-6	Wrench	Used to remove/install nut (45)
9	22505-T52-1	Stylus	Used to remove/install preformed packings (17, 46, 73, 81, 83, 99, 101, 107, 116, 128, 130, 144 and 147)
10	- DELETED -		
11	10000728-T52-1	Alignment Tool	Used to align frame (68) with body assembly (161)
12	25682-T58-2	Test Cover	Used during reassembly testing
13	25384-T58-1	Test Plug	Used during reassembly testing

*Manufactured by Scott Aviation, Lancaster, N.Y.

Special Tools, Fixtures and Test Equipment List
Figure 1101



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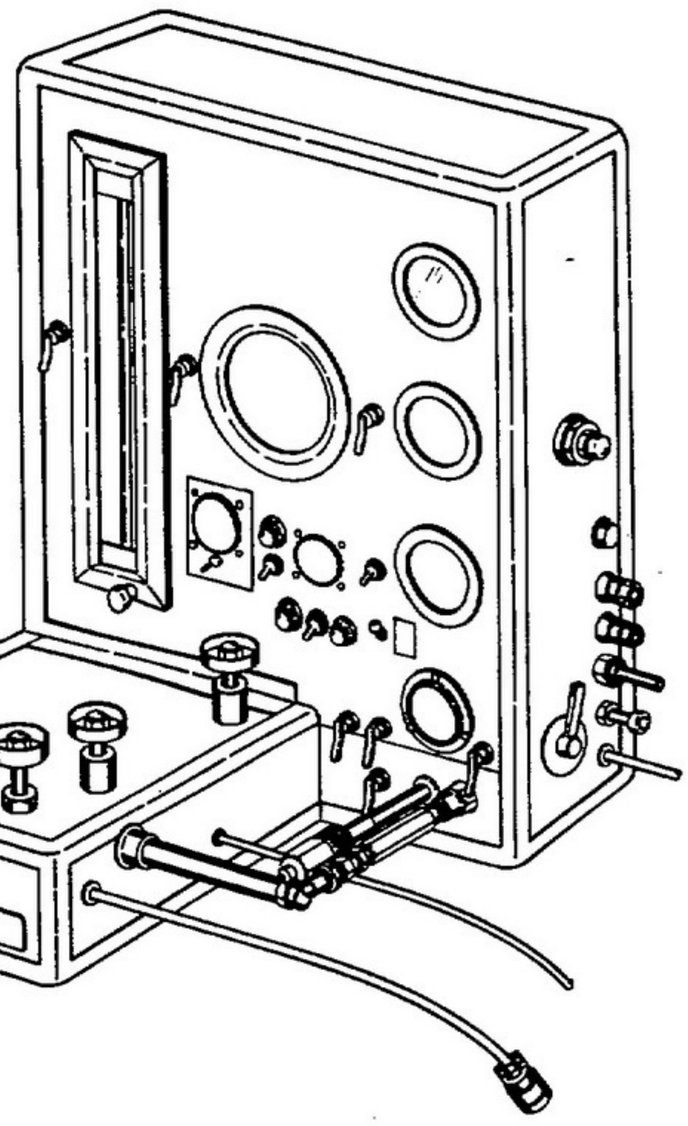

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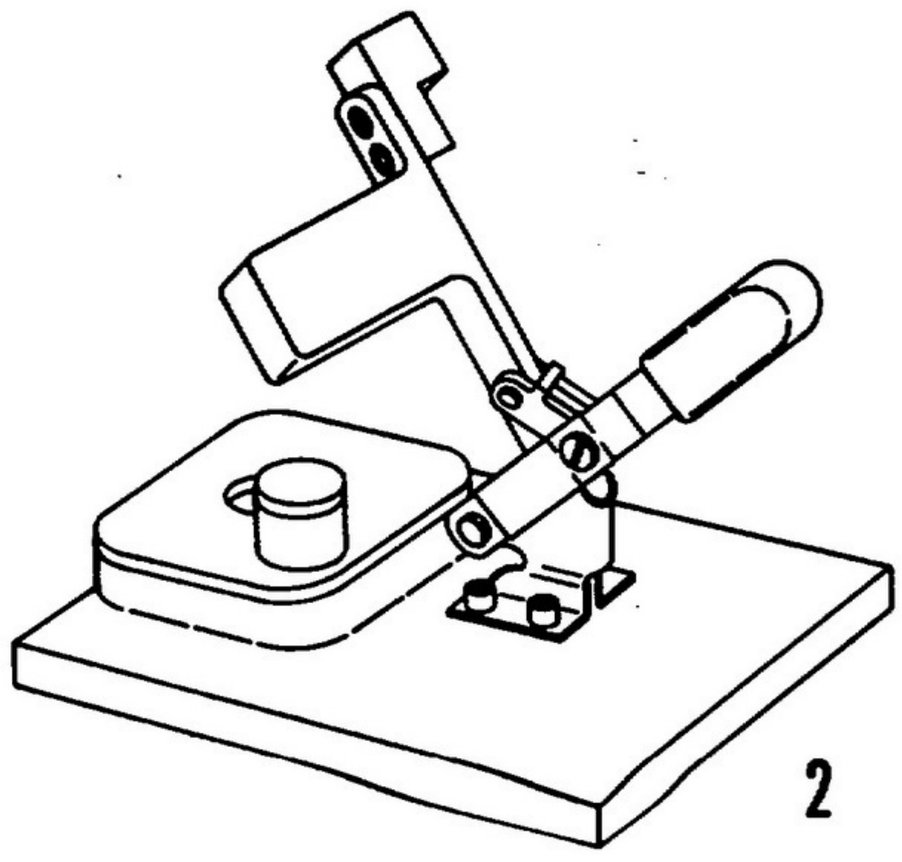

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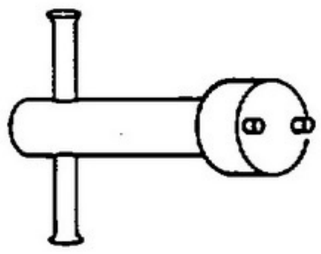

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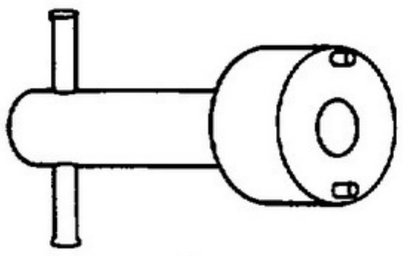

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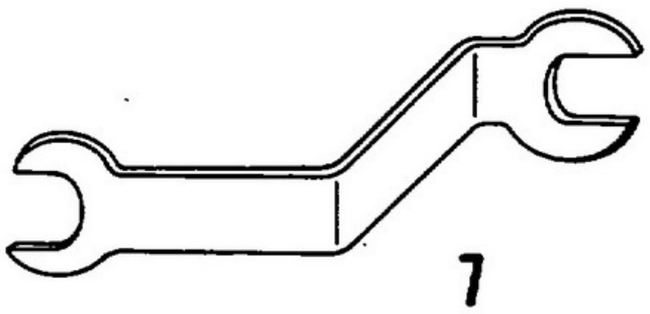

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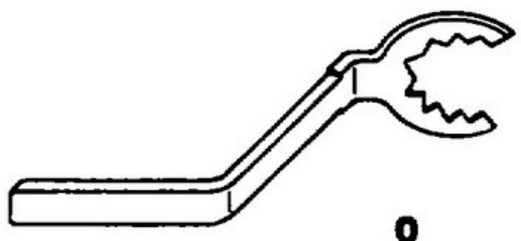

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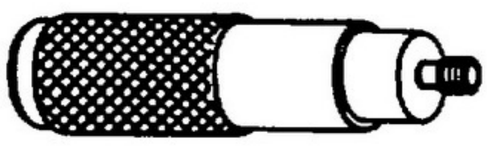

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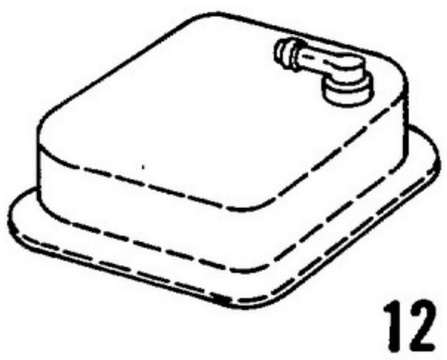

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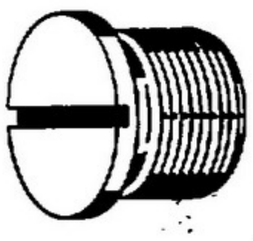


13

Special Tools, Fixtures and Test Equipment
Figure 1102

12. Illustrated Parts List

A. This Illustrated Parts List covers the 800802-01, 800802-02, 800802-03, 800802-04, 800802-05 and 800803-01, 800803-02 and 800803-04 Electro-Pneumatic Flow Control Units.

B. Group Assembly Parts List

(1) The Group Assembly Parts List consists of a parts listing and completely indexed exploded view drawing. Each assembly listed is followed immediately by its component parts, properly indented thereunder, to show their relationship to the assembly.

(2) The quantities listed in the "UNITS PER ASSY" column are the total quantity used per control unit at the location indicated.

(3) The part numbers listed in the "PART NUMBER" column are Scott Aviation part numbers except standard parts, which are listed by "AN" and "MS" part number, and vendor parts, which are listed by vendor part numbers. The following list contains the code and name and address of vendors supplying items for the control units.

VENDOR'S CODE

CODE	NAME AND ADDRESS
V00779	AMP Inc. P.O. Box 3608 Harrisburg, Pennsylvania
V02697	Parker Seal Co. Cleveland, Ohio
V03530	American Gas and Chemicals, Inc. New York, New York
V05972	Loctite Corporation Newington, Connecticut
V07098	Linde Division of Union Carbide Tonawanda, New York
V08800	General Electric Company Insulating Materials Dept. Schenectady, New York
V18632	Chemplast, Inc. Wayne, N.J.

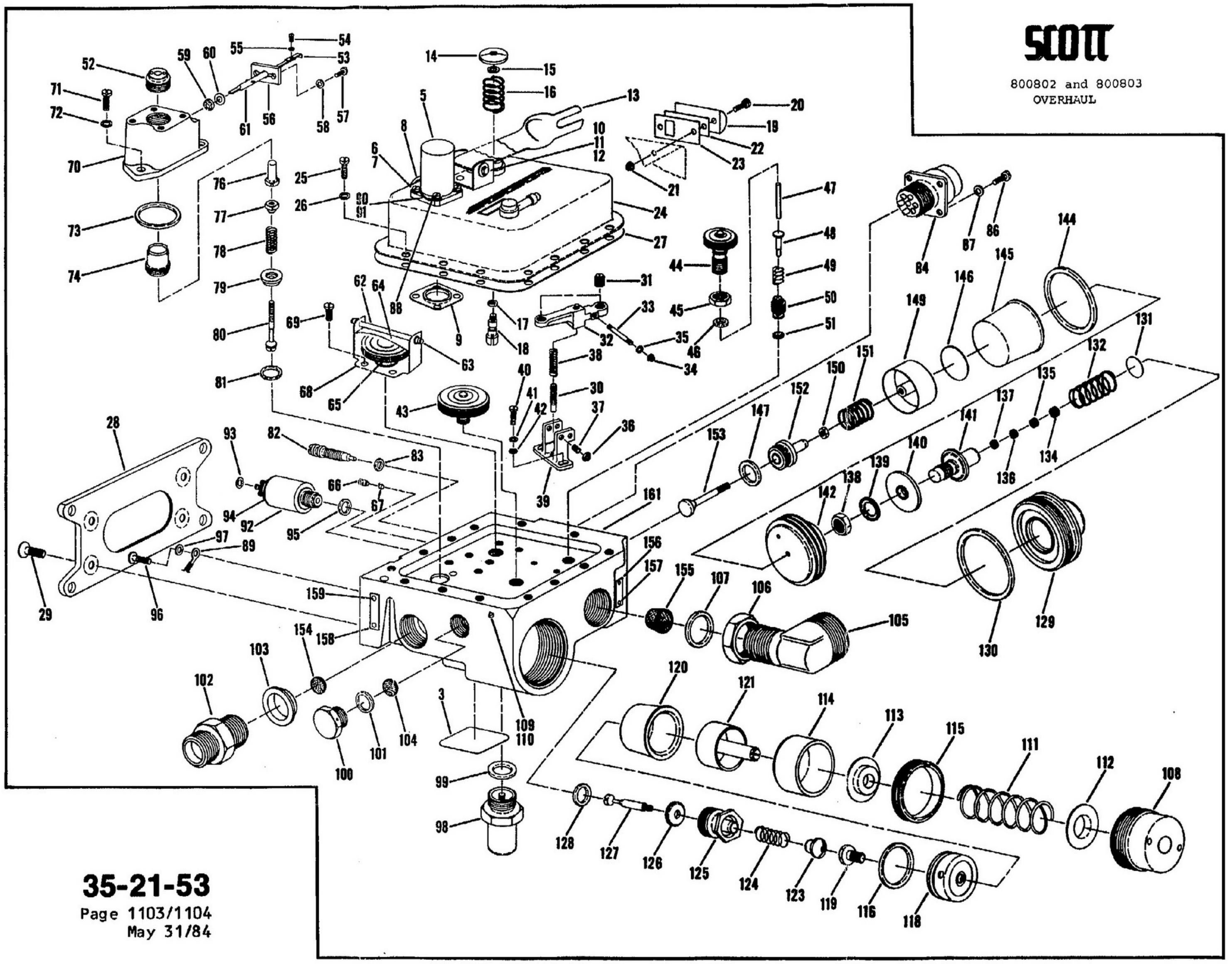
V12179	Navan Inc. El Segundo, California
V18873	E.I. DuPont DeNemours and Co., Inc. Wilmington, Delaware
V91784	Hooker Chemical Corp. Niagara Falls, New York

C. How to use this Illustrated Parts List

(1) If neither the part number nor the nomenclature is known, the part can be found by comparison with the exploded view illustration. When located on the illustration, the index number will refer to the line in the Group Assembly Parts List with the part number and the nomenclature.

SCOTT

800802 and 800803
OVERHAUL



35-21-53
Page 1103/1104
May 31/84

FIG. ITEM	PART NUMBER	AIRLINE STOCK NO.	NOMENCLATURE 1234567	EFF CODE	UNITS PER ASSY	
1-1	800802-01		CONT UNIT-ELECTRO-PNEUMATIC	A	RF	
-1A	800802-02		CONT UNIT-ELECTRO-PNEUMATIC	B	RF	
-1B	800802-03		CONT UNIT-ELECTRO-PNEUMATIC	C	RF	
-1C	800802-04		CONT UNIT-ELECTRO-PNEUMATIC	F	RF	
-1D	800802-05		CONT UNIT-ELECTRO-PNEUMATIC	H	RF	R
-2	800803-01		CONT UNIT-ELECTRO-PNEUMATIC	D	RF	
-2A	800803-02		CONT UNIT-ELECTRO-PNEUMATIC	E	RF	
-2B	800803-04		CONT UNIT-ELECTRO-PNEUMATIC	G	RF	
3	10001735		. PLATE - IDENTIFICATION	ABCFH	1	
-4	10001736		. PLATE - IDENTIFICATION	DEG	1	
5	10001678		. SOLENOID		1	
			ATTACHING PARTS			
6	AN500D4-6		. SCREW		4	
7	MS35333-70		. WASHER		4	
			---*---			
8	59535-01		. TUBING - PLASTIC		1	
9	25397		. GASKET		1	
10	MS20392-2C25		. PIN	ABD-G	1	
			ATTACHING PARTS			
11	MS24665-149		. PIN - COTTER	ABD-G	1	
			---*---			
12	AN960-10		. WASHER	ABD-G	3	
13	25393-13		. LEVER ASSEMBLY	ABD-G	1	
14	25387		. BUTTON		1	
15	MS35333-70		. WASHER		1	
16	25380		. SPRING - HELICAL - COMPRESSION		1	
17	2-5COMP-S753-70 (GRN)		. PACKING - PREFORMED (V02697)		1	
18	10000725		. PLUNGER		1	
19	25307		. LENS		1	
			ATTACHING PARTS			
20	AN500D2-5		. SCREW		2	
21	H14-02		. NUT (V75237)		2	
			---*---			
22	25383		. PLATE - LENS		1	
23	25382		. GASKET - LENS		1	
24	801194-01		. COVER SUBASSEMBLY	ABD-G	1	
-24A	801194-02		. COVER SUBASSEMBLY	CH	1	
			ATTACHING PARTS			
25	33359-213		. SCREW		13	
26	MS35333-70		. WASHER		13	
			---*---			
27	24509		. GASKET - COVER		1	

- ITEM NOT ILLUSTRATED

FIG. ITEM	PART NUMBER	AIRLINE STOCK NO.	NOMENCLATURE 1234567	EFF CODE	UNITS PER ASSY
1 28	24686		. PLATE - MOUNTING		1
			ATTACHING PARTS		
29	59626-00		. SCREW		4
			---*---		
30	25477		. SETSCREW		1
31	10002610		. SETSCREW		2
32	10001653		. LEVER		1
			ATTACHING PARTS		
33	10001786		. PIN - LEVER		1
34	H14-02		. NUT (V75237)		2
35	AN960-3		. WASHER		2
36	MS35649-244		. NUT		2
37	10001801		. SETSCREW		2
			---*---		
38	25306		. SPRING - HELICAL -		1
			COMPRESSION		
39	10001655		. SUPPORT - LEVER		1
			ATTACHING PARTS		
40	33359-228		. SCREW		2
41	MS35333-71		. WASHER		2
42	MS15795-805		. WASHER		2
			---*---		
43	10001572		. ANEROID		1
44	10001571		. BELLOWS ASSEMBLY		1
45	AN316C5		. NUT		1
46	MS9068-902		. PACKING - PREFORMED		1
47	10001631		. PIN - PUSH		1
48	28846-1		. STEM		1
49	10001793		. SPRING - HELICAL -		1
			COMPRESSION		
50	800874-00		. SEAT ASSEMBLY		1
51	10001635		. GASKET		1
52	25384-1		. DETENT ASSEMBLY		1
53	25680		. INDICATOR		1
			ATTACHING PARTS		
54	AN520-0R3		. SCREW		1
55	MS27183-1		. WASHER		1
			---*---		
56	25394		. PLATE - PIVOT		1
			ATTACHING PARTS		
57	33359-213		. SCREW		2
58	MS35333-70		. WASHER		2
			---*---		

- ITEM NOT ILLUSTRATED

FIG. ITEM	PART NUMBER	AIRLINE STOCK NO.	NOMENCLATURE 1234567	EFF CODE	UNITS PER ASSY
1 59	25736		. WASHER - SEAL		1
60	25723		. WASHER - BACK-UP		1
61	25304-3		. LEVER ASSEMBLY		1
62	3501-01		. BOLT - TIE		1
			ATTACHING PARTS		
63	58526-00		. NUT		2
			---*---		
64	10001645		. SPRING - LEAF		1
65	10002609		. ANEROID		1
			ATTACHING PARTS		
66	AN565AC4H4		. SETSCREW		1
67	2837-2		. INSERT - NYLON		1
			---*---		
68	10001656		. FRAME		1
			ATTACHING PARTS		
69	MS33359-213		. SCREW		4
			---*---		
70	10001657		. BLOCK - MOUNTING		1
			ATTACHING PARTS		
71	AN500D4-5		. SCREW		3
72	MS35333-70		. WASHER		3
			---*---		
73	MS9068-020		. PACKING - PREFORMED		1
74	10001643		. HOUSING -VALVE		1
-75	801130-02		. VALVE ASSEMBLY -		1
			ACTUATION		
76	10001644		. . NUT - CAP		1
77	25698		. . NUT - LOCK		1
78	25481		. . SPRING - HELICAL -		1
			COMPRESSION		
79	10002506		. . SEAT		1
80	10873		. . STEM		1
81	MS9068-012		. PACKING - PREFORMED		1
82	10001669		. SCREW - ADJUSTING		1
83	MS9068-008		. PACKING - PREFORMED		1
84	801332-00		. CABLE ASSEMBLY	ABCFH	1
-85	MS24264R14		. CONNECTOR ASSEMBLY -		
	B7PNX		ELECTRICAL	DEG	1
			ATTACHING PARTS		
86	MS33359-213		. SCREW		4
87	MS35333-70		. WASHER - LOCK		4
			---*---		

- ITEM NOT ILLUSTRATED

FIG. ITEM	PART NUMBER	AIRLINE STOCK NO.	NOMENCLATURE 1234567	EFF CODE	UNITS PER ASSY
1 88	321017		. LUG - TERMINAL (V00779)		1
89	321020		. LUG - TERMINAL (V00779)	ABCFH	1
90	50336-02		. WIRE - ELECTRICAL	ABCFH	1
91	50336-01		. WIRE - ELECTRICAL	DEG	1
92	10001677		. SWITCH - PRESSURE (TERMINAL NUTS SUPPLIED)	ABCFH	1
			ATTACHING PARTS		
93	1902-00		. WASHER - LOCK	ABCFH	3
94	10001928		. DISC - INSULATION	ABCFH	AR
			---*---		
95	MS9068-903		. PACKING - PREFORMED	ABCFH	1
96	AN526C632R4		. SCREW	ABCFH	2
97	MS35333-71		. WASHER	ABCFH	2
98	800860-00		. VALVE ASSEMBLY - RELIEF		1
99	MS9068-908		. PACKING - PREFORMED		1
100	25288		. PLUG - TEST		1
101	MS9068-902		. PACKING - PREFORMED		1
102	MS21902-5C		. UNION		1
103	VD261-0109-0105		. SEAL - BOSS (V12179)		1
104	8820-4		. FILTER		1
105	10003401		. ELBOW	ABD-G	1
-105A	10003806		. REDUCER	CH	1
106	AN924-8D		. NUT	ABD-G	1
107	M9068-908		. PACKING - PREFORMED		1
108	800855-00		. CAP ASSEMBLY		1
			ATTACHING PARTS		
109	AN565AC4H4		. SETSCREW		1
110	2837-2		. INSERT-NYLON		1
			---*---		
111	10001639		. SPRING - HELICAL - COMPRESSION		1
112	10001722		. WASHER - THRUST		1
113	10001723		. WASHER - THRUST		1
114	10001626		. SLEEVE		1
115	10001627		. RETAINER - SLEEVE		1
116	MS9068-021		. PACKING - PREFORMED		1
-117	800856-00		. DIAPHRAGM ASSEMBLY		1
118	10001724		. . DAMPENER		1
			ATTACHING PARTS		
119	10001624		. . SCREW - HOLD DOWN		1
			---*---		

- ITEM NOT ILLUSTRATED

FIG. ITEM	PART NUMBER	AIRLINE STOCK NO.	NOMENCLATURE 1234567	EFF CODE	UNITS PER ASSY
1 120	59317		. . BELLOFRAM		1
121	10001641		. . PISTON		1
-122	800850-00		. VALVE ASSEMBLY		1
123	10001629		. . HEAD - STEM		1
124	10001721		. . SPRING - HELICAL - COMPRESSION		1
125	800849-00		. . GUIDE ASSEMBLY		1
126	10001623		. . SEAT - VALVE		1
127	10001633		. . STEM - VALVE		1
128	3-5COMP77-545		. PACKING - PREFORMED (V02697)		1
129	10001694		. CAP - SURGE VALVE		1
130	2-29COMP-S604-7		. PACKING - PREFORMED (V02697)		1
131	25882		. DISC - SLIP	ABCFH	1
132	25286		. SPRING - HELICAL - COMPRESSION	ABCFH	1
-133	25530-2		. ORIFICE AND DIAPHRAGM	ABCFH	1
134	55573		. . SETSCREW	ABCFH	1
135	8938-1		. . SCREEN - FILTER	ABCFH	1
136	20489		. . PACKING - GLASS WOOL	ABCFH	AR
137	8938-1		. . SCREEN - FILTER	ABCFH	1
138	25532		. . NUT	ABCFH	1
139	25533		. . RING	ABCFH	1
140	25883		. . DIAPHRAGM	ABCFH	1
141	25531-1		. . ORIFICE ASSEMBLY	ABCFH	1
142	10001630		. SEAT	ABCFH	1
-143	10001634		. PLUG	DEG	1
144	MS9068-028		. PACKING - PREFORMED		1
145	59334		. BELLOFRAM		1
146	10001632		. PLATE - DISC		1
147	2-15COMP77-545		. PACKING - PREFORMED (V02697)		1
-148	800853-00		. VALVE ASSEMBLY - FLOW CONTROL		1
149	10001636		. . PISTON		1
150	MS35649-244		. . NUT		1
151	10001647		. . SPRING - HELICAL - COMPRESSION		1
152	800854-00		. . GUIDE AND SEAT ASSEMBLY		1
153	10001649		. . STEM		1
154	8820-3		. FILTER		1
155	25711		. SCREEN		1

- ITEM NOT ILLUSTRATED

FIG. ITEM	PART NUMBER	AIRLINE STOCK NO.	NOMENCLATURE 1234567	EFF CODE	UNITS PER ASSY
1 156	25297		. PLATE - OUTLET		1
			ATTACHING PARTS		
157	MS21318-1		. SCREW - DRIVE		2
			---*---		
158	25297-1		. PLATE - INLET		1
			ATTACHING PARTS		
159	MS21318-1		. SCREW - DRIVE		2
			---*---		
-160	801331-00		. BODY ASSEMBLY	ABCFH	1
161	800885-01		. BODY ASSEMBLY	DEG	1

- ITEM NOT ILLUSTRATED